PHYSICAL EDUCATION

ATHLETICS AND APPARATUS

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Theory and Practice
OF
Physical Education

BY
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Vol. III
Apparatus, Track and Field Work
for Girls and Women

Indianapolis, Ind.
Normal College of the American Gymnastic Union
1921

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By Emil Rath

PREFACE TO THE FIRST EDITION

The apparatus exercises contained in this book are the result of outlines used by the author as instructor of women at the Harvard University Summer Course in Physical Education and at the Normal College of the American Gymnastic Union. The outlines have been collected in book form in recognition of the need of a text-book on apparatus work for girls and women that would be of service to teachers and students of physical education. It is the author's hope that this book will supply the need.

Apparatus Work for Girls and Women concerns itself almost wholly with the theory, technique and terminology of the exercises on the different apparatus.

Although attention is called to the method of presentation and to the effect and value of exercises occasionally, these subjects do not come within the scope of this book.

The track and field work described consists of the events most popular with the young women of the Normal College.

I am indebted to Mr. Wm. A. Stecher, supervisor of physical education in the public schools of Philadelphia, Pa., for the use of illustrations and some excerpts from his "Educational Gymnastics"; also to Dr. L. M. Toerngren and Dr. Ferd. Aug. Schmidt for the use of illustrations. E. R.

Indianapolis, Ind., November, 1915.

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PREFACE TO SECOND EDITION

The following features have been added to the first edition of Apparatus, Track and Field Work:

1. Methods and Management, containing a description of the measures found essential to attain results quickly and effectively.

2. Objectives, consisting of five classes of aims based upon physiological and psychological values. They are distinctly marked throughout the graded material and always follow a series of preparatory exercises, which progressively lead to these aims.

3. Aim-charts. At the end of the graded material for each age-group will be found an aim-chart containing their objectives in an abbreviated form. This simplifies the method of teaching as the instructor has before him all the activities he wishes to teach, the apparatus to be employed and the pages they are to be found on.

The author trusts that the revised edition of Volume III will meet with the same approval by students and teachers of physical education as his first edition.

Indianapolis, April, 1921. E. Rath.

METHODS AND MANAGEMENT

Alignments

In order to instruct a number of individuals in any kind of physical activity it is necessary, if this is to be accomplished without any waste of time and with fruitful results, to place them in an orderly relation to one another (tactic alignment) which will permit rapid and uninterrupted performance of the work asked of them by the entire group, and which enables the instructor to teach them, to supervise their work and, if necessary, shift them quickly about to accomplish his purpose. Teaching a number of persons while placed in such an orderly arrangement is called class or group work and is the opposite of the free way of doing things when an individual follows his own inclination which is usually spoken of as a free play period. Both are essential in physical education. The former, from a proficiency point of view, lays the foundation for all-round training and has definite hygienic and educational aims, the latter permits the individual to perfect himself in the skills begun in group instruction and in such events and stunts as he is most interested in, but also develops certain very desirable qualities. These two ways of doing physical education work and variations of them, will be treated more fully under "modes of execution."

For *group work on apparatus* the arrangement of the class may either add to or detract from the interest in the work and either further or hinder progress and teaching. Some alignments tempt younger pupils to breaches of discipline, others prevent them from seeing the work on the apparatus and thus learning from observation. The ear-marks of a good formation are: place the class in such a position that all may see those performing on the apparatus, that they do not interfere with one another going to and from the apparatus and that the instructor can see those on the apparatus

and the rest of the class. A general rule for group alignments embracing the above points, if no running start is needed, is: place the class on a line parallel to the one upon which the apparatus is placed and from five to ten steps distant. If the class is large it may be necessary to place pupils on both sides of the apparatus or even on three sides forming an open

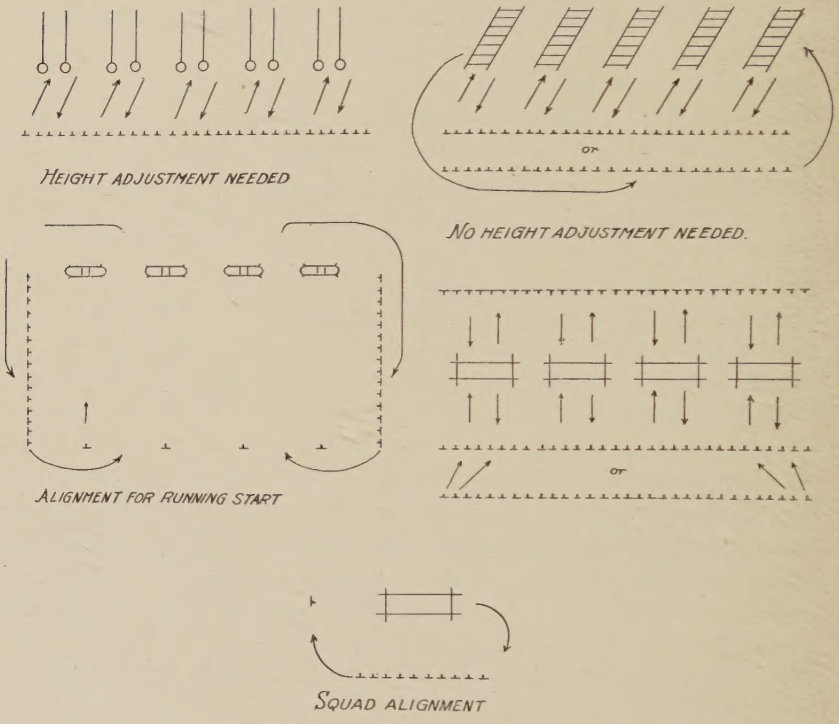


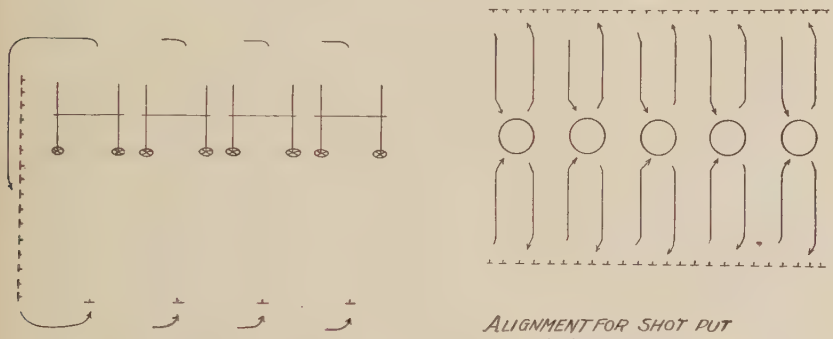
FIG. 1.

square. If a running start is needed: place the class on lines at right angles to the one upon which the apparatus is placed. Here too, in large classes both sides are used for alignment and sometimes it is desirable to have as many separate formations as there are pieces of apparatus in use (Fig 1).

In all cases the instructor should stand so that the apparatus will be between him and the class in order to observe those exercising and the others, enabling him to make the nec-

essary corrections and admonitions, offer suggestions and maintain discipline.

The division of the class for group work on apparatus depends upon the apparatus used. When apparatus must be adjusted to the height of the pupils the class is divided into as many sections as there are pieces of apparatus. One or two from each section are then requested to adjust the apparatus to the height desired, and one or more from each section perform simultaneously. If height adjustment is not essential this division may also be made but is not absolutely necessary. In the latter case as many pupils as there are pieces



ALIGNMENT FOR DIFFERENT JUMPS ALSO FOR SPRINTS

ALIGNMENT FOR SHOT PUT AND THROWS.

FIG. 2

of apparatus begin exercising either from the head or the end of the class, or half the number from both ends (Fig 1).

The approach and return in work in which no running start is needed is either directly to the apparatus and then directly back to the section where sections are formed, or by facing and then following each other running in a flank rank to the apparatus and returning around the rear of the class where apparatus is not adjusted to the height of the pupils. (Fig. 1.) If a running start is used sections may or may not be formed. The pupils run directly to the starting place and return to their position in line by passing behind their class mates.

When squad work on the apparatus is given the alignment

is usually such that the members of the squad may most advantageously observe the one performing. This is generally a position sideways of the one on the apparatus and the proper distance from it. The approach of the pupil is from a designated point and the return around the rear of the squad to his previous position. The squad leader stands where he may assist, if necessary, the one performing. If no assistance is needed he has the apparatus between himself and the squad.

A definite place for the various apparatus both for squad and class work should be selected by the instructor and adhered to so that the pupils will know just where to place the different apparatus when work on them is assigned. The most advantageous position should be selected for this.

For *track and field activities* the previously mentioned alignments are used. Thus when track and field events are given as group work (such as are possible of being given so) where as many work at one time as there are places for the event (this refers to hurdling, jumping, etc., and not to preparatory activities taught in mass like free exercises), the same alignments, approach and return are used as in apparatus work (Fig. 2). This is also true when the class is divided into sections or squads and work at different events. Less formality is observed here, however, the pupils merely following one another in some definite order and changing to another event as in squad work upon a given signal.

Well thought out alignments are aids to discipline and teaching, enabling the instructor to present work more easily and quickly and thus keep the class busy and sustain interest.

The foregoing suggestions are guiding principles from which variations adapted to different situations may be readily made.

The Command

The form of the command employed by the instructor depends on the object he has in view. Generally two forms are used, the sentence form and the noun (or verbal noun) form.

The sentence form is used for the analytical presentation

(see Forms of Presentation) of exercises, *i. e.*, for the teaching of new exercises, and is the only form which should, if at all possible, be used for this. It clearly defines each movement of an exercise to be performed and signals the pupils when it is to be made. It is response work and has for its object among other things (see Modes of Execution) the learning of the component movements of a complex exercise giving the pupils a clear and concise conception of each detail of the exercise. There are, of course, some activities which can not be analyzed and must be learned as a group unit of movements. If the sentence form is to be used for rhythmic execution the command *begin* follows the analytical presentation.

Example of the sentence form:

Analytical presentation of the front vault mount and dismount right from the side stand frontways—Jump with a quarter turn left and backswing of the body to a riding seat—jump. Legswing forward and backswing of the body to a free support and jump off to right—swing. Better examples might be given by selecting exercises performed in the hang, support, lying hang, lying support, etc., inasmuch as they are closely related to free exercises. More examples, however, are unnecessary as they are given with the material. Typical fundamental apparatus exercises are generally presented synthetically, not admitting of analysis. Frequent carefully executed demonstrations take their place. Demonstrations must, of course, not be neglected in the analytical presentation.

The noun form is used for analytical presentation of exercises previously taught and for presentation of a known exercise. Its use for analyzing purposes on the side horse: Front vault mount left to riding seat in saddle and front vault dismount left—jump; swing. The following example will suffice to illustrate the synthetical application of it:

Parallel bars: Support swinging forward and backward to lying support frontways and front vault dismount—swing. If this is done in class work the pupils are kept together by counting for the various activities or by using words suitable to the activity.

For long rhythmical executions a similar procedure is used.

The exercise is named and then followed by, in time—begin (or start), adapted to the activity. The word "begin" (or start) is most commonly used.

The structure of the command. We have seen from the above examples that a command consists of two parts and a pause. The first essential in conducting formal work is to tell the pupils what they are to do. This is done by the first part or the *command of explanation.* After an appropriate pause, the performance of what is to be done follows upon the *command of execution.* We thus need an explanatory command, a pause, and an executory command to do an exercise either as response work or in rhythm.

The explanatory command should give the pupils a clear conception of what is wanted.

The pause is adapted to the complexity of an exercise being short in such as are quickly understood and proportionally longer in those more involved.

The executory command is adapted in tone to the nature of the activity and should always be accurately timed as to the moment of its delivery.

In apparatus work the following sequence in writing out exercises is used:

(1) From stand, side or cross, frontways, rearways, sideways, left or right with
(2) Grip.
(3) Activity to
(4) Position on apparatus and
(5) Grip (if not given under 2).
(6) Activity to next position on apparatus (as often as needed) or
(7) Activity to position on the floor.

Refer to above examples for illustrations of this.

When complex exercises are to be commanded only the important points need be stated; as front vault left—run, the grip and position to the apparatus being omitted. This is brought out in the demonstration.

When combinations are taught slight changes of only a part of the combination do not demand a complete restate-

ment. Here one merely calls attention to the change as, the same exercise but rear vault dismount in place of front vault dismount.

Voice qualifications. A modulated, correctly pitched and well controlled voice is a great help in conducting work and obtaining results and should therefore be striven for. Carrying power is particularly desirable. The commands should be clearly and distinctly enunciated so as to be easily understood, and the tone adapted to the nature of the activity, to the size of the class and of the room or space in which the class maneuvers.

In adapting the voice to the nature of the activity one must distinguish between the movements performed by sudden jerky muscular contractions much like throwing movements, as jumping, and those which require a slow or moderately slow, but forceful, vigorous and complete muscular contraction as leg raising. The former requires a snappy, explosive-like command of execution while the command for the latter is drawn out, but forceful, suggesting thorough contraction.

Demonstrations

An instructor who can demonstrate with skill and finish the activities he is teaching will always find favor in the eyes of his pupils. It gains for him their admiration and respect and becomes an invaluable aid in discipline and management. There is probably no other means, unless it be the contagious enthusiasm of an energetic instructor for his work, which will arouse as much enthusiasm for and awaken as much interest in the work in hand as a demonstration performed with elegance and polish. It is a splendid incentive. The instinct of emulation which underlies this enthusiastic response is actively aroused and spurs on the pupil to repeated efforts. No instructor can afford to ignore the wonderful force contained here. It should be utilized to its fullest extent.

If the instructor himself lacks the ability to demonstrate a capable pupil can generally be found. Should this be necessary it is advisable to select different pupils and not have the same one always demonstrate, and even if the instructor

himself is a most finished performer the value of having pupils demonstrate should not be overlooked. (See Pupils as Aids.)

The demonstration of any exercise should be done in the spirit of an artist, it should be model-like and perfect in every detail. The instructor (or pupil) should never permit himself to become slovenly in his execution or present work in a slipshod fashion. It is unworthy of one who takes his work seriously. The details of an exercise should be shown with photographic clearness and the whole rounded off into a performance suggestive of consummate skill and cleverness.

Such demonstrations give the pupils a clear and correct concept of the desired activity and make for quick results. Poor and faulty demonstrations arouse wrong conceptions, lead to faulty, sluggish and slovenly execution and make teaching difficult and tedious; the end in view is not so readily attained as many things must constantly be undone. First impressions are hard to eradicate and always insist on recurring.

Of course, pupils do not on first presentation grasp the correct form of a stunt. They see only the rough outlines. Attention must be called to the details and the whole gradually unfolded to them part by part as demonstrations are repeated. Age and experience, however, modify the procedure somewhat.

The instructor's demonstration should always be on the most conspicuous piece of apparatus so that every member of the class can see him (or the pupil) without difficulty when he performs. He must, furthermore, present all activities counterlike when facing the pupils, using his right side when the class is expected to use the left; but when demonstrating many of the fundamental apparatus exercises, he must face as the class would face while working, although no ironclad rule need here be observed.

The demonstration may also be used for correcting faulty executions by showing these in an exaggerated way to pupils. Tact must, however, be employed when doing this since one may unconsciously hurt the feelings of the pupils. It, however, frequently enables the pupil to overcome the mistake in his exercise.

Modes of Execution

Physical Education activities given under the direction of an instructor may be either performed by one individual following another in a regulated manner, in which case we speak of it as *squad work,* or by a group of individuals simultaneously when it is termed *class, group or mass work.* Both modes are important.

In *squad work* the individuals of each squad perform independently of one another. A number of squads may be busy at one time under the supervision of an instructor and so aligned that none will interfere with the other. It closely approaches personal instruction since one individual at a time comes under the direct observation of the teacher although only for a short period. This gives an opportunity to observe and correct mistakes and give valuable hints as to execution not possible in class work.

In *group or mass work* the entire group or part of it performs simultaneously. This is possible in exercises on apparatus if enough apparatus are present. When not enough are on hand a certain number of the class perform at one time. (See Alignments.) Only such exercises should be given as class work, which are assured of a fairly successful execution. The movements combined into exercises should not be beyond the performing ability of the class. This method of presentation should alternate with the free manner style frequently.

Apparatus work should be given frequently in a *free manner* rather than to the command or rhythm set by the instructor. The presentation of work in a free manner may be used when teaching fundamental exercises (stunts) to an entire class, by no means a practice to be encouraged as fundamental exercises should be taught during squad work or during a free play period. The instructor merely signals each group when to start and permits them to finish at their leisure before the next group starts. These various groups may even follow each other in different activities rotating from one to another as *e. g.,* traveling on the horizontal ladders, then vaulting over horses, then walking on the balance beam, then

climbing, and finally some form of jumping. In such activities as traveling (hand-walking) the next in order need not wait until the one preceding finishes. These forms are an agreeable change both to the instructor and pupil and should be frequently used.

Informal execution is principally used during the free play periods, which precede or follow formal instruction. During that period the pupils practice what was taught during the formal work perfecting certain stunts, trying out new ones and testing their strength, skill and endurance in the form of play. Each pupil works independently of the other although it often occurs that a number are trying the same thing. One jumps, another is on the rings, on the horizontal bar or circle swing, here a group is vaulting, etc. It is such a familiar sight that it needs no further description.

The instructor is busy observing that no pupil attempts dangerous work or such stunts as are beyond his strength, that there is no interference and no possibility of accidents. He is constantly about, making corrections, giving suggestions and hints, demonstrating occasionally, encouraging the timid and holding the daring within bounds. The free play period is a very busy one for the instructor and demands that he be wide awake.

Explanations and Criticism

No teacher of physical education can accomplish good results quickly unless he possesses the ability to point out accurately the faults occurring in execution and, by a few elucidating remarks directly to the point, remedy them. This is essential in all kinds of work, formal or informal, in the gymnasium, on the playground, or on the athletic field.

Explanations are often necessary to amplify the command and the demonstration in order that pupils receive a clear conception of the desired activity. Criticisms are given to point out faults, so that the individual execution may be improved; to encourage pupils in difficult stunts requiring perseverance or courage, and thus bring out these qualities, and to praise or censure them as the occasion may require. Both explanations and criticisms are used for the purpose of attain-

ing definite gymnastic values by means of some particular activity.

The command or statement of an activity is scarcely sufficient to give the pupils a clear cut mental image of it. Even if re-enforced by demonstrations the form often remains vague. This is particularly true of children. Their sense of sight has not been so developed as to enable them to see all parts of an exercise distinctly in one or two observations and the command aids but little in obtaining a clear idea of what is wanted, so that explanations must necessarily follow.

There are other reasons for elucidation by verbal instructions. Adults have no difficulty in getting the mental grasp of the exercise but lack of general body control prevents them from doing it. This control is attained by calling attention to the position of the various parts of the body. Frequently a knack is contained in the stunt that can be explained much better than demonstrated. Both of these are, of course, used in the instruction of children as well as adults.

Procedure. The application of explanations is generally as follows: A few words of explanation may be given before attempting an exercise. Thus, in the straddle vault, the suggestion, "straddle wide and push hard from the hands," may be given before the class attempts the vault. The use of such preliminary remarks depends largely, however, on the ability of the class and in some cases may be omitted. It is well for the young teacher to have a repertoire of such pithy expressions, brief and to the point, meeting all requirements, and to precede important exercises by the proper ones. They may also be used during and after an execution.

The instructor, furthermore, must strive to attain the ability of constantly offering suggestions and admonitions to the class or a pupil, providing activity admits of it, while the class or pupil is in action. If a fault frequently recurs he should stop the entire class, get their attention and then explain how this difficulty may be avoided, illustrating his remarks by a polished demonstration. In the case of the straddle vault, he would state the reasons for the necessity of raising the hips high, keeping the legs straight and as far apart as possible and pushing off vigorously from the hands. Thus the most

appropriate period for the elucidation of a knack, is undoubtedly after the conclusion of an attempt when the whole class is paying strict attention and the experience is fresh in their minds. There is not the same power of concentration or the same interest before or during an execution on account of the attention being diverted in other directions. A class well under way is able, however, to react fairly well to timely interspersed remarks while in action.

To develop good form of a complex performance one should call attention to the main points of the principal activity first, neglecting for the time being the secondary activity. If, however, bad faults are creeping in it is well to correct them at once. This is then followed by centering attention upon the movements of secondary importance. Best results are obtained, and quickest too, by placing emphasis upon—driving home—one thing at a time, by focussing attention upon a single activity of a complex stunt. After that has been fairly mastered the elements of lesser importance are polished so that the whole stunt may be done in good form. Thus, in the wolf vault the forceful hip and knee flexion of one leg while the other is swung sideward and kept perfectly straight, receive the first attention and later the thrust from the hands, the closing of the legs, the straightening of the body as it clears the apparatus, and the proper alighting. Analysis is frequently necessary for this, but it is not always possible.

An occasional digression during an explanation pointing out the good results which are obtained from doing this or that activity arouses and increases interest in the work and gains the co-operation of the pupil. It should never be neglected although it is to be borne in mind that it is better to get results by action than to merely talk about them. Too much time should not be spent upon this.

Information of interest to pupils consists of pointing out the practical values of exercises, the influence they have upon the health, the musculature, posture, carriage, etc., etc., and of occasional reference to records in an athletic event which you happen to be practicing. Remarks of this kind spur pupils on to better efforts and make them anxious to co-operate with the instructor in obtaining results.

Criticism and explanations go hand in hand during instruction. The instructor usually follows faulty execution by correcting the mistake and explaining briefly, if necessary, how the exercise should be done.

Methods. Corrections are best made by (1) positive, short and pithy, rather than negative statements, as, keep your head up, straighten the knees, etc., rather than, do not droop the head, don't bend the knees, etc. Make the pupil think about the thing he is to do and not the opposite. (2) A judicious use of praise and censure during and after an exercise brings improved results and should be constantly used. Words of encouragement and praise coming from the instructor spur on the conscientious pupils and create a desire to do still better. Extreme and over-abundant praise may of course, have the opposite effect, hence it should be wisely applied. Comparison with other classes or with members of the class, pointing out the splendid execution of some one individual can be used to advantage in arousing the instinct of emulation. On the other hand, it is at times absolutely necessary to censure a class, particularly if the performance is clearly below their average ability, careless and slovenly. At such times the instructor should repeat the work and if improvement is obtained say a few words of encouragement. (3) Improved results are often obtained by repeating a demonstration calling attention to the fault to be corrected or by demonstrating the fault, at times, in an exaggerated manner. When doing this the instructor must be sure to assume the correct attitude toward his class, being careful to avoid the slightest suggestion of ridicule, or he will fail entirely in his efforts. Repetition after such demonstration improves the mental grasp of the exercise and invariably brings results. (4) If such efforts fail, and at other times when the occasion requires it, the instructor may in many instances, as in free exercises and apparatus work, use manual application by gently placing or forcing the pupil into the correct position. This gives the pupil the muscular feel of the position and is often the quickest way of obtaining a desired result although it is not always practical or even advisable. It must be done with discretion.

Only practice will develop in the young instructor the ability to pick out faults during formal work of an entire class. To do this it is necessary to keep it as a whole in the angle of his vision rather than to observe just a part of it. He must also learn to distinguish between faults made through carelessness and those due to lack of strength and skill. The former call for censure and remarks should be made directly to the guilty ones while the latter calls for encouragement.

Usually remarks bearing on faults and execution are addressed to the class as a whole. Individual faults should be pointed out, however, to the failing pupil so that *the repetition which should always follow an adverse criticism* will give him an opportunity to improve himself while the class as a whole strives for better execution. Expression should follow impression, and corrections stated and not followed by attempts to overcome faults are forgotten and achieve nothing.

Repetition and Rhythm

There are four methods of repetition commonly used, they are:

(1) Repetition by command of word or count; (2) repetition in rhythm applied only to such activities as are performable in rhythm; (3) repetition in a free manner and (4) at later periods, particularly of fundamental activities and their variations. The first three deal with repetitions while learning new exercises. Repetitions on command and in rhythm also form a part of re-presentation of activities learned in the past.

In order to get a distinct and clear cut mental image of any activity repetition must be followed by criticism and demonstration (see Demonstration) which will point out the faults. Thus in repetition by command, faults should be corrected both during the execution while the pupil is in some definite position, and after it. However, it is a mistake to ask pupils to maintain a tiring position too long while making corrections, for usually while remedying one fault other faults of posture will creep in. The duration of a strenuous position must, therefore, be well within the limits of the pupil's strength. Here it is perhaps best to make corrections after the execu-

tion and merely offer admonitions during the holding of the position.

Rhythmic execution, wherever this is in place, follows the repetition by command. There are many instances, however, in which rhythmic repetition is the only kind suitable for the particular activity. This is true of some apparatus exercises, where it is impossible to analyze the movements into positions which may be maintained or where this is not desired. The number of repetitions of an exercise depends upon the object of the teacher and the difficulty of the exercise. Some must be often repeated without a pause in order to get the desired effect, others less frequently. If the instructor observes that the execution is poor, he should insist upon repetition for the purpose of learning the exercise. A difficult combination may require so much coördinative power that many repetitions are necessary; on the other hand, some will require less. Correct progression, however, will not admit of too difficult problems in coördination requiring excessive time for their learning. These must be led up to gradually. Furthermore, the instructor may have in mind certain physiological effects which he wishes to attain by an exercise. He then adjusts the length of his repetitions to suit his purpose. Strenuous exercises should not be repeated very long, but may be tried again after a pause. Lasting accomplishments can only be attained by a number of repetitions, and it is only in this way that motor control is gained and that the mental image of the activity becomes fixed and clear.

Repetition in a free manner is not made use of as much as it should be. Its principal purpose is to give the pupil an opportunity to try in his own fashion activities which require considerable skill and sometimes demand an acquisition of a particular knack essential in their performance. Such tricks can be best learned if the pupil is left to try them out by himself. Occasions of this kind arise particularly in teaching difficult apparatus stunts. It is a welcome break in the formal execution and relieves temporarily the attention necessary for performing on dictation.

Repetition at future periods should place emphasis upon fundamental activities. These are reviewed as such and may

be varied by changing the secondary parts according to the laws of progression as certain fundamental exercises of the type that will strengthen the large trunk muscles, and vaulting and jumping exercises. The trained instructor is familiar with the methods used to make these exercises progressively more effective and interesting. Other less important exercises may be reviewed at greater intervals of the semester's work.

The length of the interval between repetition depends upon the age of the pupils. In the lower grades the intervals must of necessity be short. Children learn quickly, but also forget quickly, hence there can not be a long interval between representation of activities. As you pass to the higher grades, on the other hand, the interval may be proportionately lengthened.

Apparatus exercises are performed either in class (group) or individually. They may be conveniently divided into

(1) free exercises on apparatus, and
(2) fundamental apparatus exercises.

Free exercises as class work on the apparatus are usually performed at first trial in an independent rhythm, that is, in a free manner by the pupils, and then in a dependent rhythm indicated by the teacher and adapted to the nature of the exercise, as exercises in the hang stand, lying hangs, lying support, hang and support.

The fundamental exercises and combinations are generally performed individually and in the independent rhythm of the pupil. He must adapt his rhythm to the nature of his movement in the combination or stunt which should neither be too hurried nor too slow. Nothing spoils a pretty combination on the apparatus so much as rushing through an exercise hastily without giving the proper time to each part of the combination.

Pupils as Aids

Many opportunities present themselves in the gymnasium and on the playground during apparatus work to use the pupils as assistants. These the instructor should welcome for the purpose of developing important educational values

along social lines by practical application, seizing the occasion to stress social training as an aspect of physical education. Chances to place emphasis on the development of values important to society frequently appear in physical education and must be fully taken advantage of.

Objects. Although the direct object for using pupils as assistants is (1) to facilitate the procedure of teaching, indirectly, such tasks performed by pupils can be made to react favorably upon their character development and upon the social side of their nature. The pupil, furthermore, may assist in the prevention of accidents for it frequently happens that he may stop a classmate from falling during some risky activity.

An instructor should be conscious of this and purposely control and direct as far as possible these influences. Thus, when a pupil assists the instructor he performs a service for him, a most commendable act which should be extended to classmates and others by appropriate encouragement. It is therefore important that this (2) "spirit of service" be consciously developed. It is a valuable quality, important in community life and in the relationship of man to man and has an ennobling and sacrificial influence on character. This "I serve" spirit should therefore be emphasized when the opportunity presents itself, and gradually grow from a willful obedience to the requests of the instructor, to a spontaneous readiness to assist whenever an occasion suggests it. In the same manner it is possible to (3) develop the spirit of co-operation. Many activities performed in the gymnasium require the co-operation of several pupils. For instance, in the getting, setting up and returning of apparatus; in the leading of squads; in some exercises themselves, co-operating with classmates and the instructor is necessary.

This also is a most desirable qualification for many civic results depend upon it. It may mean a sacrifice of time, effort and sometimes money, but all of these find their ultimate compensation and individual satisfaction in the resulting accomplishments which, of course, are for the welfare of the whole community. The instructor must look upon his class as being such a small community and impress upon his pupils

the need of their co-operation to establish and maintain order and achieve results.

Advantages. Furthermore, some advantages accrue from this procedure.

(1) The instructor can save his energy considerably by assigning to a number of pupils tasks which he himself might perform. This is necessary, particularly since physical directors are required in some schools to teach as many as six and seven periods a day and devote the rest of the day's time to the coaching of teams. If an instructor so overburdened does not conserve his energy wisely, his health will eventually become impaired. In fact every instructor should realize the necessity of judiciously saving himself by having his pupils assist him whenever this is possible.

(2) Moreover, such assistance prevents interruptions in instruction and permits the lesson to proceed continuously, thus saving time which can be used for work. Furthermore, the discipline of the class suffers if the instructor, for instance, is obliged to get every piece of apparatus necessary for his work, and otherwise perform tasks which could be done in less time by members of the class who would thus be occupied. This maintains the pupils' interest and if a break is necessary, it is usually of short duration.

The different ways of using the pupils may be classified under four heads:

(1) To lead (squads, teams) and record results.
(2) To aid in apparatus work.
(3) To demonstrate.
(4) To get, set up and return apparatus.

(1) To lead (squads, teams) and record results. It is frequently necessary and sometimes advisable to resort to squad work. This may be due to the following reasons: (a) A lack of apparatus, the equipment, for instance, consisting of only one or two pieces of the different kinds of apparatus, thus making group work impossible; (b) classes composed of pupils of various ages and of different ability as we find in some high schools where freshmen work with seniors; also for the taking of measurements (scoring aims) to be re-

recorded by the squad leader. Under such conditions class work is possible but as progress can but slowly be made on account of the composition of the class, interest can be better maintained if squad work and the supervised free period occasionally are employed.

The squad is made up of seven to ten pupils. To direct the squads, leaders are necessary and pupils to act as such should be selected from the upper classes, or as the case may be, from the most capable pupils, and organized into a leader's corps. This leaders' corps should receive special instruction in work they will be asked to teach their respective squads. The periods and time for such instruction is determined by their ability and the time available. A system of lesson cards or small pocket-sized books on apparatus work can be well used as a basis for such instruction. Besides being taught the various apparatus exercises, these leaders should be given some elementary instruction in commanding, so that they will be able to move groups of pupils about readily.

If there is no contest taking place you will still find pupils striving to attain the standard of efficiency tests. Leaders may be used to record these results checking off the name of each pupil as he accomplishes a certain stunt. Such details relieve both physical director and class room teacher (where there is no resident teacher) of work and withal develop leadership and responsibility in the pupils.

(2) To aid in apparatus work. Pupils may be frequently used to criticise one another during class or group instruction. This method can be applied to all formal work as marching (tactics) ; free, wand and club exercises; dancing; apparatus work. In purely formal work it is used in difficult exercises. The next one to perform on the apparatus makes the correction. Aiding a pupil to overcome a difficulty in a stunt frequently gives him the muscular feeling necessary to accomplish it.

Assistance in apparatus work is given principally to prevent injury caused by falling. Aid is not necessary in the lower grades where all apparatus work is extremely simple, nor is it possible in these grades to have the pupils aid in the correction of each other as was described above. The in-

structor assists, should this be necessary, and also makes all corrections, for the pupils themselves are too untrained, possessing only vague and incorrect conceptions of physical education activities.

When appointing pupils to assist in apparatus exercises that may lead to falls, only the strong, experienced and reliable should be selected. Although it is advisable not to choose the same ones all the time, weak and unreliable pupils should never be asked for this kind of work. In some exercises it is necessary to have two stand as assistants. When using pupils for this purpose they must be carefully instructed as to (a) just where to stand in order that they do not by their position interfere with the performance of the stunt, and perhaps cause the pupil to fall, rather than save him; and, furthermore, (b) be told just how and what part of the body and when to grasp. Catching hold of the performer's arm or wrist too soon may cause rather than prevent a fall. It is therefore important that capable and experienced pupils be selected. In assistance thus given the spirit of service to and co-operation with the classmates again stands out distinctly.

(3) To demonstrate. It is desirable, if possible, that all demonstrating be done by the instructor (see Demonstration), but it may happen that the instructor is not as capable as some of his advanced pupils. This is particularly true in advanced work on apparatus and in some athletic events. In such cases it is wise to select a proficient member of the class to do the demonstrating. Furthermore, it is recommendable to occasionally select a pupil from the class to demonstrate, even though the instructor can do it himself, for this awakens in the pupil an incentive for good work. If this procedure is judiciously used, always selecting other pupils, it will have a beneficial influence upon the work of the class for it will arouse a spirit of friendly rivalry and emulation.

(4) To get, set up and return apparatus. In order that apparatus may be placed in position for use with despatch and little loss of time for class, squad or free work, it is necessary to assign certain duties to different members of the class. In class work (also in free work), the first step is to divide the group into as many divisions as there are apparatus to be

used (see Alignment), and then assign to as many pupils of each division as are necessary the getting and setting up of apparatus. During squad work the same procedure is used, excepting that the members of each squad under the direction of the squad leader are assigned these duties. Thus one usually assigns the getting of the apparatus to two or four members and the getting of the mats and other things needed to the other members of the section. In connection with this it is necessary for the instructor to teach the pupils how to grasp, carry or roll and adjust the different apparatus. It is well to devote part of the period at the beginning of the semester to this instruction, so that every member of the class will be proficient in this. Furthermore, the pupils must be familiar with the disposition of the apparatus, so that no time be lost restating where the different pieces are to be placed or returned to after use. It is necessary, therefore, for the instructor to have a permanent diagram made out for the semester, showing where the different pieces of apparatus are stationed when in use and when not in use. This should be always adhered to. Weak and awkward pupils must not be expected to handle heavy pieces of apparatus. The strong and skillful ones should do this. The instructor should observe that every member of the section is active in connection with this. After the apparatus has been placed in position for work the instructor tests it as to its safety, positively assuring himself before proceeding. At the end of the work on the apparatus it is returned in the same manner in which it was fetched.

This procedure will tend to awaken in the pupils a spirit of service, co-operation and obedience, and will aid in the development of skill, qualities which the instructor keeps constantly in mind while assigning the tasks with a view to organizing them into habits.

In recent years apparatus work has been sifted down to specific exercises upon a few predominating pieces. The expense of equipping gymnasiums is, no doubt, partly the cause of this, but it has also been found recommendable from the physical educator's viewpoint to reduce the many varied forms of activities possible on apparatus to certain essentially fundamental ones (see Objectives).

Objectives in Apparatus Work

The purpose of establishing aims or objectives in apparatus work is to fix a goal for the pupils in the form of definite tasks and to enable the instructor to strive for the purposeful development of qualities which to some extent are peculiar to this branch of physical education. It also makes it possible for the instructor to note positive accomplishments not generally apparent by the usual method of instruction in muscular strength, skill and other qualities and accurately measure them. In a general way these objectives may be said (1) to present opportunities for exercising the will power as expressed in tenacity, perseverance and courage; (2) to increase and strengthen in varying degrees physiological functions particularly of the vital organs; (3) to produce accurate neuro-muscular control and (4) an all-round thoroughly developed and well-toned musculature.

Based upon their physiological and psychological character apparatus activities may be divided into five classes of objectives each aiming at specific values: (1) Skill and perseverance aims; (2) strength and determination aims; (3) courage aims; (4) speed and determination aims; and (5) endurance and tenacity aims. They are indicated throughout the graded material.

(1) Skill and Perseverance Aims. These consist of stunts on the various apparatus which may only be accomplished by frequent endeavors persistently repeated from time to time. They have as their object the development of a high degree of co-ordination only gradually acquirable, thus inducing pupils to perform a great deal of healthful muscular work and demanding a steadfastness of purpose to overcome the obstacle presented in the form of a stunt. Examples are—turns (half and whole) at either end of the pendulum swing on the rings; turn-traveling on horizontal ladders; different inverted hangs on various apparatus; seat-changing on the parallel bars; the scissors, etc.

(2) Strength and Determination Aims. Their object is to strengthen local muscle groups by repeating rather simple exercises requiring little co-ordination but vigorous muscular

contraction. In his effort to exceed his own previous or his classmate's record in this type of activity the pupil strengthens the muscles involved and develops no small amount of determination. Examples are pull-ups in the hanglying position, push-ups in the support-lying, leg and knee raisings in the hang, etc., indicated throughout the graded material.

(3) Courage Aims. These consist primarily of vaults over and from various apparatus and certain other stunts marked throughout the graded material. A high degree of skill is also required. The execution, however, depends mainly upon the ability to concentrate the will power upon the task in hand and crowd out of the mind the conflicting ideas of danger, which constantly force themselves into the focus of consciousness and interfere with a successful performance. Thus courage required for stunts involving some degree of danger and demanding the overcoming of fear is gradually developed.

(4) Speed and Determination Aims. Activities of this kind are limited, consisting of traveling on the horizontal or oblique ladder and climbing ropes and poles against time. The element of rivalry makes them interesting. They demand rapid and vigorous muscular action approaching the maximum contraction and correspondingly quick innervation. They produce a marked influence on the organs of circulation and respiration.

(5) Endurance and Tenacity Aims. These consist of activities demanding the holding of the body in a position on the apparatus a certain length of time or of repeating fairly simple activities over a long period. Depending upon the exercise the muscular action may be intensely vigorous as in climbing for distance or moderate as in traveling for distance. The element of competition brings out the stick-to-it-ive quality. Examples are: remaining in a hang-position or climbing position, swinging in a climbing position, etc.

The instructor selects the single aims suggested throughout the graded material by making an investigation of his pupils' abilities and then decides upon such as seem to fit the average strength and skill of his class. It is a mistake to attempt too much at one time. Two or three varying aims

are enough to begin with. These should be selected from different classes (e. g. from class one and three; or two and three; or three and five; etc.; or one, two and three; or one, three and four; or one, three and five, etc.), so that a fairly broad development results. The last two classes of aims (four and five) must be carefully adapted to the various age groups and at no time overdone. Furthermore, these objectives should present goals for the pupils to strive for during a certain period of school time only (a semester).

The objectives decided upon must be revised from time to time progressing with the advancement of the pupils. Such a method of establishing aims for a class, disregarding a classification of the pupils as to weight, etc., is practical and workable within a class. One could not in this manner, set up standards of achievements applicable to pupils of similar age or grade elsewhere. However, in the absence of a more scientific procedure it is at least feasible and practical and serves the ultimate end the objective method has in view.

Classifications of pupils based on grade, age, height and weight have been worked out by Mr. Frederick Riley of New York City* and are recommended for study and possible application.

An investigation conducted by the writer with the assistance of graduates of the Normal College of the American Gymnastic Union in which records in apparatus work of several hundred pupils in different parts of the country were collected could not be utilized in establishing fixed standards for the various ages and sexes. It was evident that many extraneous factors were active in determining ability, among them early training before entering school as well as environment offering opportunities for practice, or the absence of it, in addition to height, weight, age and grade.

It therefore is better to establish objectives at present by testing out the class for which the standards are intended, and allowing a wide range for scoring.

Preparatory exercises for the various objectives can be

* Efficiency Tests for Elementary Schools, City and Rural, published by the American Physical Education Association, Springfield, Mass., contains these tests and additional suggestions for scoring tests.

most economically conducted in class or group work under direction of the instructor, a number of pupils (or the entire class) going through activities leading up to set standards at one time. The instructor can in this way strengthen the muscles involved, call attention to knacks in skill-stunts and demonstrate stunts, reaching all the members of the class at once, and also advise them as to the best method of procedure.

Some of the aims may at times be tried during class work, but this should not be done by execution under direction but in a free manner, one group following another and performing the activity independently of each other.

A better time for practicing stunts and aims is during the free period at which time the instructor can move about freely and give advice and help here and there.

Squad work under the leadership of pupils also offers good opportunities for this work. In fact the final tests should be made during squad work, the instructor having previously set the day for these examinations. The squad leaders record the results on the class chart, checking the names of those who pass the particular aim measured on that day. This relieves the instructor of considerable work.

Measuring Apparatus Work

The object of measuring apparatus work is to note the progress of the class and individuals and the pupils' relative efficiency in such qualities as strength, skill, courage and muscular endurance. They may also be graded in activities requiring speed.

The results of such grading should be an incentive for physical improvement.

The means used for this purpose consist of a number of aims or objectives, i. e., standards of achievement (see "Objectives in Apparatus Work") expressed in definite concrete tasks assigned to the various age-groups.

Physical education activities may be divided into two large groups for the purpose of grading. The first consists of such activities as may be accurately measured as to time and space and frequency of execution regardless of form, such as athletic

events, pull-ups, knee-raising, climbing, certain stunts on the apparatus, etc.

The second group consists of activities that are comparatively judged, i. e. executed according to form. They consist of tactics, free exercises without and with hand apparatus, dancing and the fundamental activities on the apparatus.

The Accurately Measurable Types. We are interested here only in those that are possible of execution on the apparatus. Those accurately measurable by space consist primarily of exercises in vaulting for height or distance. Those measurable by frequency consist of such exercises as the dips (push-ups), pull-ups, knee raising, leg raising and such stunts requiring skill as are only performed once regardless of form. These aims are set for the pupil and he receives credit after accomplishing them. They are to be found under the graded material of the different age-groups and their selection into group-aims should be based upon attaining an all-round development and physical hardihood.

The method of scoring aims should be such that the weaker pupils will not be discouraged and the stronger ones be urged to greater effort. That is, the minimum point must not be set too high, but there should be the possibility for scoring excellent achievement. The evaluation, because of the lack of tested standards, must be compiled by each instructor himself so as to be applicable to his classes and conditions, and should allow a wide range for scoring.

For aims selected from the first and third class of "Objectives in Apparatus Work," a definite value expressed in points should be given for their accomplishment; while for the other three classes points may be earned by frequency of repetition (class two), by increased speed of performance (class four), and by increased distance covered or for increased time a position is sustained (class five).

To illustrate: For a class of girls 15 years of age:

(1) Whole turn at end of forward pendulum swing equals —— points.

(2) One point for every pull-up in hanglying position.

(3) Clearing the side-horse with the flank vault equals —— points.

(4) Traveling forward and backward on 15 feet of horizontal ladder in —— seconds equals 2 points. Two points more for each second less.

(5) Maintaining a hang position for —— seconds equals 2 points. Two more points for each second more.

These examples are intended merely as suggestions of procedure.

Comparatively Judged Activities. Precision of movement, accuracy of position (embodying posture) and rhythm are the important constituents to observe in marking fundamental apparatus exercises. The movements should show good control in passing from one position to another, each part of the body being held correctly. There should be no bent knees or ankles if the legs are to be straight, no drooping head, etc., during a movement. Such faults require deduction of points. Likewise one must look for correct position, particularly of head and trunk, when a pause in the exercise is made on the apparatus. In rhythm one looks for continuous flow of movement, the speed of which must be adapted to the particular stunt and the size and weight of the individual.

These qualifications are observed in grading obligatory exercises which should be selected from the skill "aims" of the class. They should be announced in advance so that the pupils may try them before they are marked.

In vaulting one observes the accuracy of position during flight and during the momentary support on the apparatus. Precision of movement is difficult to notice, being most elusive. One must observe closely to grade this constituent as it is but of momentary duration. If the parts of the body fail to hold the correct position in their movement over the apparatus deductions according to the number of mistakes occurring should be made. The vaults should be selected from the semester's (aims) work of the class and announced sometime before the examination.

In self-chosen exercises (at contests), the element of difficulty must be taken into consideration. Extremely difficult

exercises are obviously graded higher than easy ones. In the contests of the American Gymnastic Union contestants are divided into classes, each of which performs exercises of a certain degree of difficulty. The judges estimate the performance accordingly. In the same manner one may expect pupils of a given grade to perform a self-chosen exercise composed of activities covered in that grade and marked high or low according to its composition and general execution. Strength exercises are easily marked and because of their certainty should be more difficult in composition or graded lower. Exercises are graded on the following basis:

Excellent execution 9-10 or 90 to 100 points.
Good execution 7-8 points.
Fair execution 5-6 points.
Poor execution 3-4 points.
Unsatisfactory execution 1-2 points.

NOMENCLATURE OF APPARATUS EXERCISES

THE GYMNAST AND THE APPARATUS

In order to definitely define the relation of the gymnast to the apparatus regardless of what position he may assume, it is necessary to employ a series of terms whose meaning will illustrate what surface of the individual is turned toward the apparatus and what relation the gymnast's breadth axis bears to the length axis of the apparatus.

The individual is possessed of a front, a rear, and a left and right surface. To determine the relationship between an apparatus and these surfaces the suffix "ways" has been employed and the terms frontways, rearways, and sideways, have been coined.

In a position frontways the front of the individual is facing the apparatus, in a position rearways the rear, and in a position sideways left (right) the left (right) side of the gymnast faces the apparatus. In these positions the individual and not the apparatus, is the decisive factor in selecting the expression which shall clearly illustrate his relation to the apparatus. A position is, therefore, sideways left if the apparatus is at the left side of the individual.

The gymnast is, furthermore, possessed of a breadth, length, and depth axis, which are of significance in gymnastic terminology.

The breadth (also termed lateral) axis is an imaginary line drawn from side to side, and is the only axis essential in describing positions; the length (also termed vertical) axis passes from the sole to the head, and the depth (also termed antero-posterior) axis from the anterior to the posterior surface. Turns may be executed about the three axes. Likewise, we may consider a length and breadth axis of the apparatus, but in the practical application have only the need of

the length axis. This consists of an imaginary line running longitudinally through the apparatus.

Considering the geometric relation of the breadth axis of the gymnast to the length axis of the apparatus gives rise to positions in which these lines are at right angles, parallel or oblique to each other. They are defined as cross, side, and oblique positions. In the cross position these axes are at right angles, in the side position they are parallel (or the gymnast's breadth axis may be the produced line of the length axis of the apparatus), and in the oblique positions they are oblique to each other.

From these considerations the following positions are obtained regardless of whether they are stands, seats, supports, hangs, etc. The stand has been selected to illustrate them.

A side or cross stand frontways.

A side or cross stand rearways.

A side or cross stand sideways.

The oblique position is seldom used, occurring, however, occasionally as a seat.

The following classification will be of some assistance in understanding the nomenclature:

Apparatus may be classified as portable and stationary, possessing a fixed or movable, divided or undivided surface, which, furthermore, may be horizontal, oblique, or vertical.

It is, furthermore, necessary to understand the terms used for the different parts of the apparatus; as, *left* and *right pommel, neck* (left end) and *croup* (right end) of the horse when in a side stand frontways; *near* and *far pommel* when in a cross stand frontways; *left* and *right bar* of the parallel bar when in a cross stand frontways; *near* and *far bar* when in a side stand frontways and *front* and *rear bar* when in an inner side stand. The same terms occur on the ladder excepting that the term beam is used in place of bar.

DIRECTIONS

Parts of the body moved by the gymnast while on the apparatus, base their directions of movement upon the surfaces of the gymnast, and the same rules may be applied here as

in the free exercises. Forward is a direction indicated by the front, backward by the rear or back, and sideward by the side of the individual. Upward is the direction above the head, which, in doubtful cases, could readily give way to headward. Downward is the direction toward and below the feet, which can, when necessary, be replaced by footward. For the intermediate oblique positions refer to the terminology of free exercises.

In exercises where the whole body is moved as a unit the directions are the same as for parts of the body, excepting the upward and downward direction. These are then no longer toward the head and the feet respectively, but toward the ceiling and the floor. On some apparatus the terms "ascend and descend" clearly define direction regardless of the position of the body. Thus a gymnast moving toward the floor on the upper side of the oblique ladder in the inverted support lying position, where his head is toward the bottom and his feet on the beams toward the top, is said to be moving downward (to descend), although he is moving in a direction toward his head, or to ascend, when he is moving in a direction toward his feet. Similarly, a person is climbing upward on poles or ropes if he is moving toward the ceiling, regardless of whether he is in the ordinary, or in an inverted climbing position, i. e., moving head first or feet first.

In defining directions of turns about the three axes of the gymnast his surfaces are the determining factors. The turns about the length axis are similar to those of the free exercises, are defined the same (left or right), and may be of the same degrees (one-fourth, one-half, etc.). It is essential, however, to state the arm about which a turn is to be executed when in the hang or the support; e. g., *one-half turn left, about the right arm.* This is not necessary if both hands give up their grips simultaneously. Turns about the depth axis are designated as such with the directions right and left, indicating the side of the body toward which the turn is to begin, the head moving first. Thus a *one-fourth turn right about the depth axis* would be a movement clockwise, when facing the clock, to the degree signified. In turns about the breadth axis the movement of the front or rear of the head determines the di-

rection. Thus in a *turn-over or hip circle forward* the head moves in a forward, and the feet move in a backward direction, and in a *turn-over or hip swingup backward* the movement is reversed. These turns about breadth and depth axes are simply explained by using the rolling direction of a wheel to indicate them. The turn that it makes about its axis in rolling from the gymnast in the direction in which he is facing, is a forward turn, in the opposite direction a backward turn, and to his left or right side is a left or right turn, respectively.

When the entire body or parts of it move in a circle in a horizontal plane the direction can be determined by the movements of the hands of a clock. If the movement is clockwise (assuming the clock to be lying horizontally in front of the gymnast) it is a circle right. Counter clockwise is termed left. These conditions occur in hanglying circling and in double leg circling in the hang. The terms for single leg circling in the support (e. g. on the side horse in exercises for men) are simplified by naming the hands under which the leg swings successively.

FORMS OF GRIPS

Upper or over grip. The surface of the apparatus is grasped from above. The thumbs are below the grasped surface and directed toward each other; hands are pronated and shoulder width apart. It is most frequently used on horizontal undivided surfaces. In grasping beams the thumb should be placed next to the forefinger (beams of the ladders, booms).

Under grip. The apparatus is grasped with hands in supination, shoulder width apart, and little fingers toward each other.

Outer grip. The divided surface of the apparatus is grasped from its outer side with the hands midway between pronation and supination and the palms turned toward each other. On the undivided surfaces, the thumb of one hand and small finger of the other are toward each other, and the hands are less than shoulder width apart (close grip).

Inner grip. The divided surface of the apparatus is grasped from the inner side with the hands hyperpronated and the palms directed outward.

Reverse under grip. The undivided surface of the apparatus is grasped from the far side and from above with the hands hyperpronated, so that the fingers will be on top with the little fingers toward each other, and the palms directed backward. It is only assumed in the hang on undivided horizontal surfaces. (Men's work.)

Mixed grip. A combination in which the hands grasp with two different grips. It generally consists of upper and lower grip, but may consist of any other two.

Open grip. Any grip in which the hands are shoulder width apart.

Span grip. It consists of any grip or grips in which the arms are further than shoulder width apart. Examples: span upper grip; span outer grip.

Closed grip. It consists of any grip in which the hands are close together.

Grasping. When the hand moves on the apparatus and regrips it the term *"grasp"* is used. E. g., grasp forward, backward, etc. If the grip is changed with the grasping, it must be indicated, as grasp forward with upper grip. According to the order in which the hands move there may be used a *"followgrasp,"* one hand following the other, *"overgrasp,"* one hand grasping above the other, and *"simultaneous grasp,"* when both hands move together, as in climbing.

POSITIONS ON APPARATUS

I. STANDS ON THE APPARATUS

The straight stand. "Stand" for short. The same as the fundamental position of Free Exercises. Faults: drooping head and shoulders, flat chest.

Straddle stand. As in Free Exercises.

Squat stand. As in Free Exercises. The hands are either inside or outside of knees. When assumed on some apparatus the knees are together.

Knee stand. The bodyweight rests on the knees and toes or on the shins.

Shoulder stand. The body is slightly arched and inverted, head below the point of support, which is on one of the shoulders. The elbows are fixed and the hands firmly grasp the apparatus, thereby assisting in maintaining the position. It occurs most frequently on the parallel bars. (Chiefly for men.)

FIG. 1
Spanbend: correct and faulty execution.

FIG. 2
Position: arch stand (on ladder).

Upper arm stand. Same as the preceding, but the upper arms, directed sideward, support the weight of the body. The hands generally assist in holding the position. Occurs mostly on the parallel bars. (Only used by men.)

Forearm stand. The same as the preceding but the forearm supports the weight of the inverted body (men only).

Hand stand. The body is arched and inverted; the head is slightly pushed backward; the arms are straight, shoulder

width apart, and assist the hands in maintaining the balance. Knees and ankles are extended. (For men's apparatus work only.)

Head stand. Only occurs in men's apparatus work.

The spanbend. (Fig. 1.) The pupils take a stand rearways to and about one foot-length's distance from the apparatus, with arms in the upward position. From here, a bending in the thoracic spine takes place, until the hands touch the apparatus.

Faults: Head not in line with trunk, exaggerated curve in lumbar spine, with protruding abdomen, knees and hips bent.

The Arch stand. (Fig. 2.) The pupils assume a stand rearways on a low round and grasp a round about head high with under grip; i. e., from below. The arms are straightened and the trunk is bent backward by pushing the pelvis forward. A constant effort should be made to keep the abdomen drawn in.

Faults: Head not in line with trunk, abdomen thrust forward, knees bent.

II. SEATS ON APPARATUS

1. *The side-seat.* The body rests upon the thighs which form the point of support. The breadth axis of the body is parallel to the length axis of the apparatus. The hips are slightly flexed. The head, shoulders, and trunk assume the same firmness of posture as in the fundamental position. The hands grasp the apparatus to maintain the balance. The legs are straight and together, with the ankles extended. Possible on all apparatus. On the *parallel bars* it may occur as an *inner* or *outer seat* depending on the position of the body on the apparatus.

Faults: Knees bent, flat chest.

2. *The oblique seat.* This seat resembles the side-seat, except that the breadth axis of the body holds an oblique relation to the length axis of the apparatus, and the hips are more flexed, particularly when assumed in rear of the hands. On

the *parallel bars* it may occur as an *inner* or *outer* oblique seat in front and in rear of the hands. Faults as in side-seat.

3. *The closed cross-seat.* The breadth axis of the body is at right angles to the length axis of the apparatus. The hips are bent to a right angle and the closed and straight legs are on the apparatus. It is used on the *buck* and *horse* in the development of certain vaults, on the stallbar with benches, and on the gymnasium ladder.

4. *The cross-seats on one thigh.* (Fig. 3.) The thigh rests on the apparatus with the knee bent to a right angle, the lower leg being parallel to the firmly extended other leg. It may be taken in front or in rear of the hands, and on the parallel bars as an *inner* or *outer cross-seat.* The entire body maintains the correct gymnastic position. It is inclined forward, and slightly arched. These seats are designated as "a cross-seat on left thigh in front (or rear) of the hand," and on the *parallel bars* as "an *inner* (or outer) *cross-seat* in front (or rear) of the left hand." On the parallel bars the inner cross-seat may, furthermore, occur on the left (or right) thigh in front or rear of the right (left) hand.

FIG. 3

Axes relation: a cross position.
Term: outer cross-seat rear of right hand.

Faults: Flat chest, drooping head, bending the pendant leg.

5. *The straddle cross-seat.* Termed straddle-seat for short. The breadth axis of the body is perpendicular to the length axis of the apparatus, and the legs straddle the apparatus. It is usually assumed upon the parallel bars and at times upon the ladder, both in front and in rear of the hands.

The hips and legs are extended so that the body forms a straight line from foot to head.

Faults: Drooping head, chest sunk between shoulders, knees bent.

6. *The straddle side-seat.* The extended legs straddle the apparatus (parallel bars) with one leg forward and the other backward. The body rests anteriorly upon one and posteriorly upon the other thigh. The hands usually grasp the front or the front and rear bar. The forward leg must be indicated.

7. *The stride cross-seat or riding seat.* This seat resembles the straddle cross-seat in every respect, but is termed a riding seat when it occurs upon an apparatus with an undivided horizontal surface as the buck, horse, or upon one bar. It may also occur as a *stride (or riding) side-seat,* in which case it also appears like the straddle side-seat with the same difference.

Faults: Same as in straddle seat.

FIG. 4

Axes relation: a cross position. Surface relation: a position rearways. Position: hang, squat-hang. Term: cross hang rearways, upper grip, knee raising.

III. HANGS AND DERIVED HANGS ON APPARATUS

The short or active hang. (Fig. 4.) The body is suspended by the hands, with chest raised, arms extended and in line with the trunk; legs straight and slightly directed backwards. Termed *"hang"* for short.

Faults: Letting body sink to passive hang.

The long or passive hang. The body sinks between the shoulders. No effort is made to raise the chest and pull up the body. There is not the muscular effort present as in the active hang.

Bent arm hang. Bent-hang for short. Same as the active hang excepting that the arms are bent with the elbows preferably at the side of the body (sometimes they are in front of the body).

Faults: Sinking of chest, drooping head, knees bent, feet apart.

Elbow hang. The body is suspended by the elbows. Same faults as in bent-hang.

FIG. 5

Axes relation: a cross position. Position: knee ang, outer grip. Term: cross knee hang right, uter grip, arm bending.

Upper arm hang. The body is suspended by the upper arms. On the undivided horizontal surface the hands meet in front of the chest; on the divided surfaces the arms are slightly bent and directed forward.

Squat-hang. (Single or double.) As the active hang with the knees raised toward the chest.

Knee hand-hang. (Fig. 5.) Termed *knee-hang* for short. The body may be suspended by both hands and both knees, both knees and one hand, or both hands and one knee, one hand and one knee. In the last two cases, the other leg is straight, the body horizontal, the chest raised, and the head in line with the trunk. These positions may be taken on undivided and divided surfaces. On the latter they may be taken as an *outer* or *inner knee hand-hang* on left, right, or both knees, and on the same or opposite bar.

FIG. 6

Inverted squat-hang.

Foot hand-hang, or nest-hang. In the nest-hang the body is suspended from hands and toes with the back directed toward the apparatus (foot hand-hang rear-

ways). The body is extremely arched in this position. When it is assumed on a divided surface it has an appearance which has given rise to the term hammock hang.

Faults: Head thrust forward; in hammock hang over extension of lumbar spine.

Balance hang. (Single or double.) As the active hang with the legs raised forward.

Free knee-hang. The body is suspended by one or both knees.

Inverted hang. The body is suspended vertically by the hands, head downward. On an undivided surface it is assumed frontways and rearways.

Faults: Head not in line with trunk, knees and hips bent.

Inverted balance hang. Same as the preceding with the body bent at the hips.

Faults: Knees bent, head thrust forward.

FIG. 7

Axes relation: a side position.
Surface relation: a position frontways.
Position: hanglying, upper grip, leg raising forw.
Term: side hanglying position frontways.

Inverted squat-hang. (Fig. 6.) Same as preceding with an additional flexion of the knees.

Hang-lying. (Fig. 7.) The body is slightly supported by the feet which generally rest on the floor; the greater part of the body weight being suspended from the hands. The arms are straight, the chest is raised and the head, trunk and leg are in a straight line.

Faults: Bent hips and knees, sinking of chest between shoulders.

FIG. 8
Axes relation: a side position.
Surface relation: a position frontways.
Position: hangstand frontways, upper grip.

Hang stand. (Fig. 8.) The same as the preceding, excepting that the greater part of the body weight is supported by the feet which generally rest upon the floor, while the lesser part is suspended by the hands.

Faults: Protruding head, flat chest, hips bent.

Other parts of the body sometimes take part in a hanging position, but because of their infrequent use they have been omitted.

IV. SUPPORTS AND DERIVED SUPPORTS ON APPARATUS

Straight arm support. (Fig. 9.) *"Support"* for short. The arms are straight with the chest well raised and the head held high, counteracting the downward pull of the body. The legs are extended and together. When contact with an apparatus is possible the body is more inclined than in the free support.

Faults: Head and chest sink between shoulders, arms bent.

FIG. 9
Axes relation: a side position.
Surface relation: a pos. frontways.
Position: support, outer grip.
Term: side support frontways.

The momentary support. The body momentarily assumes the support, returning immediately to the stand. It is usually free, the body not touching the apparatus. Same faults as in support.

Bent arm support. Same as the preceding, but the elbows are bent as far as possible.

Forearm support. Same as the support, but the forearm lies on top of the apparatus furnishing the support instead of the hands.

Support lying. (Fig. 10.) The toes, with feet closed, rest on the floor or apparatus, the arms are straight with the hands shoulder width apart on the apparatus. The body, from the head to the feet, forms one straight line, with the greater part of the bodyweight supported by the hands and the lesser part by the feet.

Faults: Bent knees, hanging abdomen, sunken chest, tilted head.

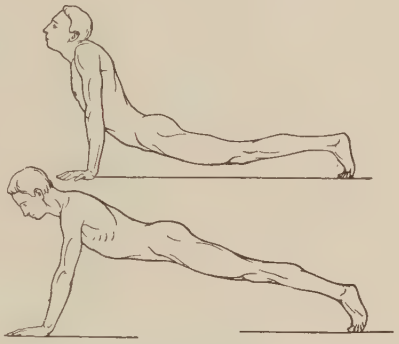


FIG. 10

Surface relation: a position frontways.
Position: support lying.
Term: support lying frontways.
Lower figure: correct execution.

FIG. 11

Axes relation: a side position.
Surface relation: a position frontways.
Position: support stand frontways, upper grip.

Support stand. (Fig. 11.) The same as the preceding, but the greater part of the bodyweight is supported by the feet and the lesser part by the hands.

Faults: Protruding abdomen due to increased bending in lumbar spine.

V. LYING POSITIONS

Lying frontways. (Fig. 12.) The front surface of the body is turned toward the apparatus. The body is perfectly straight, head slightly raised, and arms at the side. Taken on the gymnasium ladder, bench and stallbars, and parallel bar.

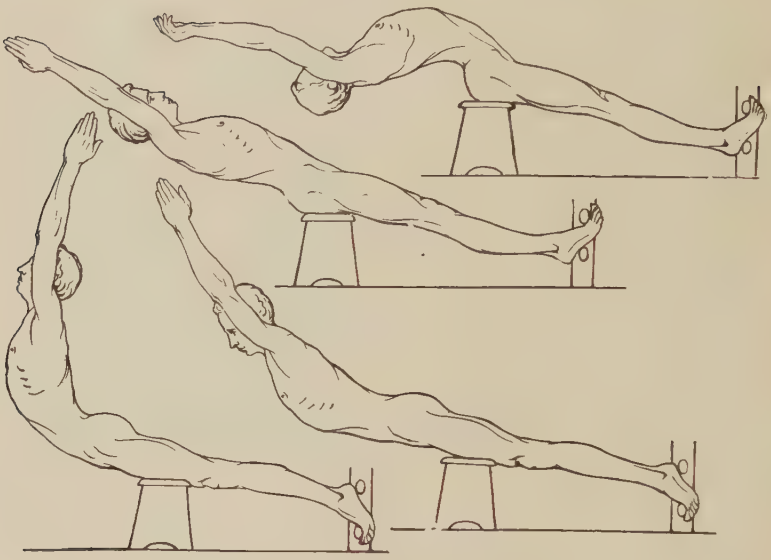


FIG. 12 (Lower Two) and FIG. 13 (Upper Two)

Lower two: surface relation: a position frontways.
Term: lying frontways.
Upper two: position, sitting.
Activity: trunk lowering and raising with arms upward.
Inner two figures: correct execution.

Lying rearways. (Fig. 13.) The back surface of the body is turned toward the apparatus; otherwise as above excepting that the head is not raised. Taken on the same apparatus as frontways. The position is obtained from lowering the trunk from sitting.

MOUNTS, DISMOUNTS AND VAULTS

Mounts are interrupted vaults which terminate in a position on the apparatus. Dismounts consist of vaults beginning from a position on the apparatus and ending in some stand on the floor. Under vaults proper such activities are generally considered which by a vigorous jump, aided by the support of the hands upon the apparatus, carry the body over it.

The directions of vaults, as well as mounts and dismounts, are determined by the side of the body which leads in the movement. They may begin from a stand or a running start.

The take-off for a mount or vault may be either a single take-off, i. e., from one foot, as take-off left, or a double take-off, i. e., from both feet. Example: From a running start with a double take-off and support on pommels, flank vault, etc. All dismounts and vaults terminate in the squat-stand with one or both arms in the side position. From the squat-stand the knees are straightened to a toe-stand, and the hand, if grasping the apparatus, is lowered. If the other arm (or both) is in the side position, it is likewise lowered. The heels are then lowered to position.

Knee mount. See p. 129, grades VII-IX.

Knee jump. See p. 130, grades VII-IX.

The squat vault over the side-horse. The knees are raised forward and upward. After passing over the apparatus the body may (1) drop to the squat-stand with arms in the side position from the position of flight, or (2) a vigorous extension of knees and hip joint may occur so that the body will be perfectly straight in the position of flight after it clears the apparatus and before it alights in the squat-stand. (3) It may further be executed by retaining the grip on the pommels long enough to extend the legs forward and then alight. The last form is generally used by the girls and women.

Faults: Feet raised backward instead of knees raised toward chest, grip retained too long, grip not in center of pommel.

The squat vault mount, (a) to squat-stand, (b) to stride support or seat, resembles the vault but ends in a position upon the apparatus. It may also be executed left or right, forward and backward.

Faults: As in the vault.

The squat-straddle vault over the side-horse. The wolf vault. This vault consists of a squatting movement with one leg, and a straddling movement with the other. It is named according to the leg which straddles. In other respects it resembles the vaults from which it is derived. In execution left the left hand releases its grip first, i. e., as the body clears the apparatus; the legs are then extended and closed, the right hand through a thrust against the pommel assists in righting the body.

Faults: Straddling leg bent. Support not on opposite arm, grip of the hand toward the straddling leg retained too long, grip not in center of pommel.

The front-vault left over the side-horse. (Fig. 14.) With support on the pommels, or one pommel and the neck (left end) the firm, slightly arched body rises, from a double take-off, to the left with a quarter turn right about its length axis and about to the horizontal (for a high front-vault to the oblique or vertical position) above the apparatus. The anterior surface is toward it. The legs are together, with the ankles thoroughly extended. The chest is well raised. The left hand then releases its grip, is swung sideward, and the gymnast alights in the squat-stand. Also performed over the long horse (oblique run) and parallel bar.

FIG. 14

Axes relation: a cross position.
Position and activity: support swinging.
Term: front vault right from support swinging.

Faults: Hips and knees bent, feet apart, support not on opposite arm, take-off to one side, alighting behind the hand retaining the grip instead of beside it.

Front vault mount. It is executed as the front vault, but when directly over the apparatus the body is lowered to some indicated position as in the rear-vault. It is termed "front vault into the straddle seat, riding seat," etc.

Faults: Front surface of body not turned toward horse. Legs apart, knees bent.

Front vault dismount. From some position on the apparatus the body is swung into a position above the apparatus resembling that ob-

FIG. 15

Flank vault left, support on pommels.

tained by the front vault to a stand, and then lowered in the direction indicated into the squat-stand.

Faults: Lack of swing.

Flank-vault left over the side-horse. (Fig. 15.) With the support on the pommels or one pommel and the neck (left end) the extended body rises from a double take-off to the left and about to the horizontal over the horse. The left arm is vigorously swung sideward as the body approaches the horizontal to assist it in the flight. As it clears the apparatus the right hand releases its grip with a thrust against the pommel, thereby assisting in re-establishing the vertical position of the body. The right arm is then swung sideward. The gymnast should alight in the squat-stand with arms in the side-position directly behind the apparatus and within a space marked by the support of the two hands.

FIG. 16

Position and activity: support swinging.
Term: rear vault right from support swinging.
Axes relation: a cross position.

Faults: Hips and knees bent, take-off to one side. Support not over opposite arm, feet apart, grip not in center of pommel.

Flank vault mount. The flank vault instead of continuing over the apparatus leads to some appropriate position upon the apparatus as in the mounts.

Faults: Hips and knees bent, feet apart.

Flank vault dismount. It occurs from some position on the apparatus from which the body may be swung through the flank vault position and into the squat stand.

Rear vault left over side-horse. (Fig. 16.) With support on the pommels the body rises to the right with a quarter turn right; the hips are thoroughly flexed, so that the closed and extended legs and ankles point obliquely fore-upward. The right hand releases its grip momentarily, while the body clears the apparatus with the back turned toward it (the left side leading), and then re-grasps the right pommel. The left arm is swung sideward as the right hand re-grasps. After

the apparatus has been cleared the hips are vigorously straightened. Throughout the entire vault the chest is active and the head held erect. The gymnast should alight in the squat-stand, with the left arm in the side position, about an arm's length distant from the apparatus and in line with the right pommel which he has grasped. It is also performed over the long horse and parallel bar.

Faults: Knees bent, feet apart, turn not executed quickly enough, incorrect transfer from hand to hand.

Rear-vault mount. If the body is lowered to some designated position upon the apparatus when directly above it instead of clearing it, it becomes a mount.

Rear-vault dismount to the left. It consists of swinging the body from some position upon the apparatus into the position of flight occurring during the clearing of the apparatus in the rear-vault left. A preparatory vigorous backward swing of the legs precedes dismounts from most seats.

The straddle vault over buck. From a cross stand before the apparatus or leading to a running start with a double take-off and a support with both hands on the far end of the buck the body rises above the apparatus with extended legs straddled as wide as possible and hips slightly bent. With a forcible thrust against the buck the body is carried over it, the hips straightened, arms swung sideward and the legs closed as the gymnast alights in the squat stand.

Faults: Support on near end, weak thrust against the buck.

The straddle vault mount and dismount are obtained in the same manner as the previous mounts and dismounts.

The leg-swing mount and dismount occur frequently upon the horse and buck, but are also possible on other apparatus. When a leg-swing mount into a position occurs under a hand this should be stated; likewise whether the leg-swing is outward, away from the body, or inward, toward the body, and forward or backward. Sometimes it is also necessary to name the part of the apparatus upon which the position is to be assumed. When a turn is added to the leg-swing mount or dismount it is termed a *turn-mount or turn-dismount.* The

direction forward or backward; the degree of the turn, and the terminating position must be indicated.

Faults: Knee bent, support not over opposite arms.

The stride-vault (Thief vault) *over the side horse.* The vault begins with a running start from a side-stand frontways and requires a single take-off, either left or right. As the body leaves the floor from the take-off, which is about three (or more) feet distant from the horse, the pendant leg is forcibly swung over the horse and between the pommels. The take-off leg is bent, brought to the other leg as it begins to pass over the apparatus, and extended. As the body is carried over the horse the hands momentarily grasp the pommels, the legs are in the forward position, and the trunk slightly inclined backward. A push against the pommels adds to the momentum of the jump and brings the body into the squat-stand rearways with the arms in the side position. It is only executed on the side horse. Assistance.

The stride-vault mount leads to seats or to the support rearways on the horse. It can not be used as a dismount.

Faults: Grasping pommels before leg is swung through, the one leg curled under, incorrect judgment of take-off.

Long vault over-side-horse on assistant's shoulders. With a running start and a vigorous double take-off, the pupil leaps over horse, with a thoroughly extended body. The hands do not touch the horse, but immediately take support on assistant's shoulders, who, standing close enough to the horse to enable the pupil to reach his shoulders with a jump, takes a step backward and lowers the pupil to a stand.

The long vault mount on the long horse without pommels is executed from a running start, and a double take-off, support on neck, into riding cross seat.

Fencers' vaults. Fencers' vaults are characterized by approaching the apparatus obliquely, by taking off from one foot, and by supporting on one arm only. These vaults (front, rear and flank) will be described as occurring over the long horse. They may be executed from a stand and a single take-off, one foot being placed backward, and from three to five or an indefinite number of steps' start. The

starting position is from an oblique stand either close to the horse or on a line forming an acute angle with the long horse.

Fencers' rear vault left over the long horse. With a take-off from the right foot on the right side of the horse and support on the left arm, the left leg and right arm are forcibly swung obliquely fore-upward. As the body rises, the right leg follows, bringing the extended legs together and flexing the hips, so that the feet will be raised head high. The left hand is raised and the right hand takes the support as the body clears the apparatus. The hips are vigorously extended on descending in the squat-stand with the right hand on the horse and the left arm sideward.

Fencers' flank vault left over the horse. This vault is similar to the front vault excepting that there is but a quarter turn right executed about the length axis so that the right side will be turned toward the apparatus. The left side leads and the legs are extended and together, the take-off foot following and closing to the left immediately. A vigorous thrust against the horse brings the body again to the vertical so that it may alight in the squat-stand rearways with both arms in the side position.

Fencers' front vault left over long horse. With a take-off from the right foot on the left side of the horse and with support on the right arm the body rises to the horizontal, assisted by a vigorous swing of the left leg which is immediately joined by the right. As the body rises a half turn right about the length axis is executed, so that the slightly arched body will be over the horse with its front surface facing it, and the left side leading. The left arm also assists with a vigorous swing upward and is lowered to the side position as the gymnast alights in the squat-stand. The right hand remains on the horse. The legs are together and the toes pointed during flight.

The mounts of the fencers' vaults are similar to those of the regular vaults.

Vaults are easiest executed upon such apparatus as are particularly adapted to the activities composing the vault and progress in difficulty of execution by performing them upon

other less suitable apparatus. There is a further progression obtained by raising the apparatus and by adding turns to the vaults. Turns may occur after or before clearing the apparatus. When occurring before clearing the apparatus they are best designated as——vault sideward or backward.

ACTIVITIES COMMON TO HANG AND SUPPORT

The following activities are performed with slight variations in hang and support. An explanation of the execution is given in the Graded Apparatus Work on the pages referred to:

(1) *Arm and hand exercises.*
   (a) Hand hopping, jumping and walking (traveling); pp. 75-76; grades I-VI.
   (b) Arm bending, p. 65; grades I-VI.

(2) *Leg exercises.*
   (a) Single and double foot, knee and leg raising or swinging, pp. 73-74; grades I-VI.
   (b) Straddling, pp. 73-74; grades I-VI.

(3) *Trunk exercises.*
   Turning trunk, p. 139; grades VII-IX. Bending upper trunk, p. 139; grades VII-IX.

(4) *Swinging.*
   (a) The short swings (not practical in support), p. 110; grades VII-IX.
   (b) The long swings, p. 111; grades VII-IX.

(5) *Turns about different axes.*
   (a) About the length axis, p. 109; grades VII-IX.
   (b) About the breadth axis, p. 88; grades I-VI.

(6) Combined activities.

ACTIVITIES PECULIAR TO CERTAIN APPARATUS

(1) *Climbing poles and ropes.*
   (a) The climbing positions, pp. 78-82; grades I-VI.
   (b) Forms of vertical climbing, p. 83; grades I-VI.
   (c) Climb traveling, p. 118; grades VII-IX.
   (d) Pendulum vault, p. 146; grades X-XII.

(2) *See-Saw (Whipple Ladder).*

Exercises in Swinging.

(3) *The Circle Swing (Giant Stride).*

(a) Exercise from the front formation, p. 86; grades I-VI.

(b) Exercises from the flank formation, pp. 84-85; grades I-VI.

(c) Exercises changing from flank to front formation and vice versa, p. 119; grades VII-IX.

(4) *The balance boards.*

Various balance walks and dance steps, pp. 89-90; grades I-VI.

WRITING OUT EXERCISES

In writing out apparatus exercises it is best to follow a uniform procedure so that others in reading them can easily understand them. Begin by naming the stand from which the exercise is to begin and the grip, if it is assumed, with the stand. If the grip is not taken with the stand, the activity leading to some position on the apparatus and the grip used are given next. These are followed by naming another activity, which then leads to a position on the floor which must be indicated, or to another position on the apparatus. In combinations two or more positions on the apparatus generally occur and then the activity leading to a position on the floor.

FORMULA

(1) From stand, side or cross, frontways, rearways, sideways, left or right with

(2) Grip.

(3) Activity to

(4) Position on apparatus and

(5) Grip (if not given under 2).

(6) Activity to next position on apparatus (as often as needed) or

(7) Activity to position on the floor.

EXAMPLES

(1) Parallel bar. From a cross stand frontways (1), outer grip (2), jump (3) to support (4), and swing forward to outer cross seat in front of left hand (6); rear vault dismount right (over both bars) to a cross stand (7). Four (support) could have been immediately followed by seven; e. g., swing backward to a stand.

(2) Horizontal ladder jump high. From a side stand under the ladder (1), jump (3) to a hang (4) with inner span grip on rounds (5); double knee raising forward (6); lower and drop to a stand (7).

If a number of exercises start from the same stand or from the same position on the apparatus these need only be named once; e. g., horizontal ladder: In the cross hang with outer grip on beams: (a) single leg raising; (b) double knee raising; (c) short swing; (d) alternate hand hopping in place, etc.

When exercises are repeated with slight variations reference is made to the previous exercise, and the change indicated; e. g., side horse: (1) knee jump forward from saddle; (2) as 1, but from the croup; (3) as 1, with a quarter turn left, etc.

GRADED APPARATUS WORK

GRADES I-VI

The following exercises on apparatus are graded rather arbitrarily, as it is impossible to definitely state how much material should be covered by a certain age-group since many factors influence grading. Care has been taken, however, to eliminate activities from an age-group that might prove harmful. It was thought best to place activities which appeared strenuous for one age-group into the next.

This grading may not suit any particular institution, although it is not based upon large demands and could well be applied to the ages as given. However, in grading the material the time devoted to apparatus work in a lesson, the number of lessons given each week and the number of weeks in which this work is practiced are factors which will determine the amount of material which may be completed. With these kept in mind it will not be difficult for the trained teacher to regrade the material presented here.

THE HANGSTAND AND EXERCISES IN THE HANGSTAND

The hangstand and support stand exercises are principally of value because of their effect upon the large muscles of the trunk (hip bending exercises). The positions are not difficult to maintain and although in no way preparatory for hang and support, may be used in preparation for the hang lying and support lying exercises. The exercises on the oblique ladder have a practical value. A gradual increase in speed in ascending should be acquired, developing accurate stepping and grasping. Descending should not be hurried, although there should also be a gradual increase in speed. In addition to furthering the execution of naturally useful co-ordinations these exercises will develop will power and courage because

of the danger associated with them, which, however, is much less real than it appears.

The Apparatus Employed—The apparatus should be placed about *hip or at most waist high,* but not above this, as it will simplify the exercises too much and deprive them of their value.

Stand on floor; grip on Apparatus	The parallel bar. (Side and cross position; outer grip.)
	The horizontal bar or boom.
	The horizontal ladder.
Feet on bar or round and grip hip high	Stall bars.
	Oblique ladder.
	Vertical ladders.

The parallel bar with its fixed base offers a secure position for the feet in the hangstand, a mechanical advantage in the execution of many exercises. Some of the exercises are possible from both the side and cross stand (outer grip), giving opportunities for repetition with variation. The parallel bar is, however, somewhat high for children and can best be used for women.

Horizontal bars, booms, and ladders are more adjustable and therefore more suitable for children.

When executing these exercises on the stall bars, vertical or oblique ladder, the feet are placed upon the rounds. The angle of obliquity must be adapted to these positions. The grip may be on round or beam (outer grip).

STALL BARS OR VERTICAL LADDERS

I. The hangstand frontways with upper grip (over grip) and exercises in it.

Run! The pupils run to a side stand frontways on the lowest round and grasp the apparatus with the indicated grip, standing close enough to touch it with the body. Command, to hangstand lower, raise. Lower: The body is lowered into signified position. Head, trunk and legs form a straight line. The chest is arched. Raise: The body is raised to the starting position. Repeat several times. Run! The pupils return and the next ones run to the apparatus. (Page 45.)

Faults: Protruding head, flattening of chest, and slight hip bending.

In the hangstand frontways (it is immediately assumed):

1. Bend and straighten knees. Command, bend—straighten. The knees bend outward over the toes similar to execution in free exercises. The arms should execute a pulling movement. It may be performed in rhythm (about 8 counts) upon the signal "begin," followed by counting after it has been correctly executed upon command of word.

2. Repeat, standing on one foot and lowering the other leg.

3. Bend and straighten hips. The hips are flexed as much as possible with the spine straight. Feet must remain fixed.

Faults: Bending upper spine, drooping head, and bending knees.

4. Alternate knee and hip bending. Also standing on one foot.

5. Turn trunk left and move left arm sideward. Command, turn—return. Keep feet fixed and turn as far as possible, reaching sideward with the free arm. The same right and in alternation.

6. Aim: Bend hips (1); straighten hips and turn trunk left (right) (2). Continue or execute return movement on 3 and 4.

7. Aim: Bend knees (1); straighten and bend hips (2); continue or return (3 and 4). The exercise may begin with hip bending.

8. Trunk bending backward. Command, trunk backward—bend, straighten. Executed like in standing (the entire spine taking part in the bending with abdominal muscles firmly contracted) against the resistance offered by the arms with hands grasping the apparatus hip high. Preferably between two vertically fixed poles, but also possible on an undivided horizontal surface as the horizontal bar. The feet should be about a foot's length away on the far side of a vertical dropped from the apparatus.

II. The hangstand rearways with upper grip.

Command and execution as above, excepting that the rear of the body is toward the apparatus. The hands are wider than shoulder width apart.

Faults: Protruding head and abdomen, bending of knees.

III. The (cross) hangstand sideways, right (left) with upper grip and exercises in it.

Command as above. Execution as before, excepting that the pupils assume a cross stand with one foot placed in front of the other, their right (left) side toward and touching the apparatus which is grasped with upper grip. The body is kept perfectly straight as it is lowered and the opposite arm is kept at the side of the body.

Fault: The head lowered toward the apparatus.

From the cross stand sideways right (or left):

1. Lower to hangstand and raise arm sideward. The body is lowered to the left into the (cross) hangstand position and the arm is raised sideward.

2. Lower to hangstand, bend trunk right, and raise arm sideward. The body is lowered as before and the trunk is simultaneously bent to the right, toward the apparatus; the arm reaches out as far as possible. The same right.

Fault: Turning the trunk.

This may be executed from a *side stand frontways,* and one hand released as the body is lowered directly sideward. The body remains close to the apparatus in the position frontways and does not turn. From this position it may be executed left and right alternately.

VERTICAL AND OBLIQUE LADDER

IV. Ascending and descending the vertical ladder.

The height to be ascended should be gradually increased. Be careful in descending.

From the stand frontways on a round with grip on beam or round either hip high or head high, ascend and descend with:

1. Common step and alternate (*) or both hands grasping.

*The left hand moves with the right foot and the right hand with the left.

2. Aim: Stepping over one or more rounds and alternate or both hands grasping.

3. Playforms: Closing or common step in the squat-stand with alternate or both hands grasping (grip hip high only).

4. Alternations of 1 to 3, ascending in one form, descending in another form.

5. *Courage Aim:* As 2 to top of ladder (once-twice).

THE SUPPORT STAND AND EXERCISES IN THE SUPPORT STAND

The Apparatus Employed—The apparatus should be placed about hip high, but not above this, as it will simplify the exercises too much and deprive them of their value. For the support stand, arms horizontal (III), the apparatus should be about waist high, or preferably somewhat higher.

Stand on floor; grip on Apparatus
- The horizontal bar or boom.
- The horizontal ladder.
- The oblique ladder.
- The parallel bar (side and cross position).

The parallel bar is somewhat high for children and can best be used for women. Horizontal bars, booms, and ladders are more adjustable and therefore more suitable for children. When executing these exercises on the oblique ladder, the feet are placed upon its rounds. The angle of obliquity must be adapted to these positions. The grip may be on round or beam (outer grip).

HORIZONTAL LADDER OR BAR (HIP HIGH)

I. The support stand frontways with upper grip and exercises in it.

The pupils run to a side stand frontways and grasp the apparatus with the signified grip, standing close enough to touch it with the body. Command, to support stand step—one, two, three. Return—one, two, three. A step left and right is taken backward and the heels brought together on three. This distance should bring the arms in an oblique position above the surface of the apparatus. The body should

be in a straight line from foot to head, the abdomen well drawn in and the head erect. (page 45.)

Faults: Protruding abdomen due to increased bending in the lumbar spine, drooping head and sinking of chest between shoulders.

In the Support Stand Frontways (assumed at once)—

1. Bend and straighten knees.

2. Single (left, right), alternated and linked knee-swing forward. Single: Command, left (right) knee forward—swing, lower. Alternate knee forward—one, two, three, four. The single or alternate execution is performed in rhythm after no faults occur during the execution upon command. The knee should be swung as high as possible without disturbing the correct position of the body. The linked knee-swing is executed like marching in place.

3. Single (left, right) and alternate leg-swing sideward.

4. Single (left, right) and alternate leg-swing backward. The extended leg is swung in the signified direction, if possible, to the horizontal.

5. Aim: Heel raising and 2, 3 and 4 combined.

6. Raise heels (1), bend knees (2), and return (3 and 4). Command, heels—raise (1); knees deep—bend (2); straighten (3); heels—lower (4). The correct posture must be emphasized. Execution on command and in rhythm. The knee bending may be repeated several times before the heels are lowered.

7. Aims: Knees deep—bend. From this starting position the following movements are taken:

(a) Knee straightening and knee-swing forward. Left, right, alternately.

(b) Knee straightening and leg-swing sideward. Left, right, alternately.

(c) Knee straightening and leg-swing backward. Left, right, alternately.

Command, straighten knees and left (right) knee (leg) forward (or other indicated direction for the legs)—swing, return. These exercises may be arranged into a four-move-

ment sequence as follows: Bend knees (1); straighten and swing knee or leg (2); return (3 and 4).

8. Turn trunk left and move left arm sideward. Right, alternate. The feet remain fixed.

II. The cross support stand sideways right, upper grip.

Command and execution as above, excepting that pupils stand with their right (left) side toward the apparatus, grasp it right with upper grip, and step left sideward to the support stand, one foot in front of the other. The left arm is at the side of the body which must not be permitted to bend at the waist toward the apparatus (a common fault). When the position is sustained in good form, add leg-swing sideward.

III. The support stand frontways, upper grip, arms horizontal.

Command, step—one, two, three, four. Return—one, two, three, four. The distance is increased one step, so that the arms will be about horizontal. Heels are brought together on four. Care must be taken that the curve in the lumbar spine is not exaggerated. The body forms a straight line from feet to head. The stand is on the toes. (More suitable for higher grades.)

Faults: Increased curve in lumbar spine, drooping head, chest sinking between shoulders. It requires a strong effort which may be prolonged by executing the following:

1. Single, alternate, and linked knee-swing forward.
2. Single and alternate leg-swing sideward.
3. Single and alternate leg-swing backward.

OBLIQUE LADDER

IV. Ascending and descending the oblique ladder on upper side.

From the support stand frontways on round with grip on beam or round, ascend and descend with:

(1) Common step and alternate* or both hands grasping (also free).

(2) Stepping over one or more rounds and alternate or both hands grasping.

*The left hand moves with the right foot and the right hand with the left.

(3) Alternations of 1 and 2 in ascending and descending. For self-expression: let the pupils select.

(4) Playform: Ascend (1 or 2), face about, descend sliding downward in the cross seat in front of hands on left or right beam, alternate or both hands moving with grip on beams.

THE HANGLYING POSITION AND EXERCISES IN IT

Apparatus Employed—The apparatus are gradually lowered from head high to hip high or a trifle lower as the pupils progress in ability, excepting where it is otherwise stated.

Fixed surfaces:
- Hor. bar or boom
- Par. bar
- Hor. ladders
- Oblique ladders

} Head to hip high {

Movable surfaces:
- Rings
- Ropes or poles

The horizontal ladder is well adapted for most of the exercises in hanglying and offers many variations in grip changing not indicated. The horizontal and parallel bar, however, offer a better gripping surface. The difficulty of hanglying on the oblique ladder (feet on rounds) increases as it approaches the horizontal.

RINGS (OR POLES, ROPES)

Hanglying frontways with
- Upper (over) grip (Fig. 7)
- Under grip
- Mixed grip

The pupils approach the apparatus as described under the side hangstand frontways.

Command, to hang lying frontways—step (lower). To a stand—step (jump or raise). A number of short steps are taken forward and feet brought together. (The pupils execute a jump, or lower the body backward into the position). The body rests on the heels of the closed feet and is suspended by the hands with arms vertical; chest arched, head in line of spine.

Faults: Bending hips and knees, sinking of chest between shoulders.

On apparatus with a fixed surface the position is obtained by stepping. Jumping, when used as the return movement, requires forcible arm flexion and pushing from the floor. On apparatus with a movable surface (rings, poles, ropes) it may be taken by one of the two methods. Here lowering is the simplest. On horizontal fixed surface it is advisable to alternate the span and open grip.

Hanglying rearways (arch hang) with upper (over) grip.

Command as above. This position is assumed from a stand frontways by stepping backward (or lowering forward, movable surfaces). The apparatus is gradually lowered from about head high to about chin high. If it is less than about shoulder or chin high the tendency toward hyper-extension of the lumbar spine will be difficult to overcome. It is more suitable for higher grades and should, therefore, be only given to the strongest pupils of this (VI) grade.

Faults: Bending the knees, protruding abdomen and head.

This position is not distinctly rearways as the arms are directed upwards and are not below shoulder level as is usually the case in ordinary hanglying rearways. That is why attention is called in particular to the height of the apparatus. The latter position may be taken on apparatus at various heights and begin from a stand rearways with arms raised backward, the hands grasping the apparatus from above.

HORIZONTAL LADDER, BAR, OR PARALLEL BAR

Many of the exercises given here may also be practiced on the rings, ropes or poles for the purpose of improving the execution by repetition.

I. Exercises in the hanglying position frontways.
The pupil runs forward and immediately assumes the position.

1. Alternate head turning left and right.
2. Single and alternate knee raising forward.

Command and execution as in exercise 1, 2 in the support stand frontways.

3. Single and alternate leg raising forward (sideward).

The extended leg is raised as high as possible without disturbing the correct position of the rest of the body.

In the sideward execution the foot is kept from the floor. These exercises may be executed from *hang sitting position,* on an appropriately low apparatus by commanding, *to sitting position,* hips—bend, (returning to *hanglying position—straighten*). In hang sitting both legs may be raised forward.

4. Bend and straighten arms (elbows sideward). The chin should be on a level with the bar.

5. Quarter turn left (right) and return. (Alternate arm lowering to side may precede this.)

Command, turn—return.

Turn, the left arm is placed at the side of the body as it executes a turn of 90° about its length axis. Return, the hand regrasps. The entire body is kept rigid during the turn. If the apparatus is low enough the left hand may be placed on the floor into the *support hanglying position.*

On movable surfaces (rings particularly) a half and whole turn may also be performed without releasing grip. This is simplified when the grip is taken on one ring.

6. Alternate grip changing.

7. Alternate hand hopping in place.

8. Alternate hand hopping { (a) to close and open grip, (b) outward and inward.

(a) One, the left hand hops to a point intermediate between the two hands; two, the right hand does likewise bringing both hands together. Three, four, return to the open grip. (b) One, as under a; two, is the return movement of the same hand. Three and four, the right hand executes the same exercise. These exercises may be begun from the span grip.

9. Alternate { 1 with 2, 3 and 4, / 2 with 3, 4 and 5, / 3 with 4 and 5, / 4 with 5. } Let the pupil select the alternation.

10. *Endurance and Tenacity*
Aim: Hand jumping
....times { (a) in place, (b) outward and inward.

11. *Strength and Determination Aim:* As 4 on hip high bar, any grip, —— times.

II. Cross hanglying sideways right, upper (over) grip.

The position is assumed by stepping into it from the cross stand. The free arm remains at the side of the body. Practice leg swing sideward after the position has been mastered.

OBLIQUE LADDER

III. Ascending and descending the oblique ladder on lower side in the hanglying position.

From an angle of about 45° the ladder is gradually lowered to the horizontal. The pupils step into the hanglying position frontways by grasping the ladder about head high and then placing left and right foot on a round.

From the hanglying position frontways with grip on beam or round ascend and descend with:

1. Closing or common step with alternate* and both hands moving.

2. Stepping upward to inverted squat hang (knees and hips bent, feet against round) alternated with hand walking upward.

3. Jumping without and with skipping round alternated with alternate or both hands moving.

4. Hopping without and with skipping round alternated with alternate or both hands moving.

5. Play form: Ascend on lower side (1-4), slide down to floor with feet on beams and alternate hands moving.

6. Ascend on upper side (various forms), change around left (right) beam to hanglying and descend (1-6).

7. Ascend (1-4), change to upper side around left (right) beam and descend in support stand frontways or rearways, or slide down in the cross seat on left or right beam with alternate or both hands grasping, grip on beams.

*The left hand moves with the right foot and the right hand with the left.

THE SUPPORT LYING POSITION AND EXERCISES IN IT

Horizontal Bar
Balance Boards } About Knee High and Lower.
Benches

BALANCE BOARDS (BENCHES)

I. Side support lying frontways, arms vertical (Fig. 10).

Command, side support lying, etc. From a stand close to the apparatus, grasp it with the indicated grip, step backward two (or three) steps so that the arms are vertical, and close heels, keeping them from the floor. To a stand—step (or return). P. 45.

Faults: Bent knees, hanging abdomen, sunken chest and head. If strength is lacking the pupils will not be able to assume this position correctly. They are then not ready for the exercises which follow. In this position—

1. Left, right and alternate head turning.
2. Single, alternate and linked knee swing forward.
   Linked knee swing is executed like marching in place with knee swing forward, but in slower rhythm.
3. Single, alternate and linked leg raising backward.
4. Single and alternate leg raising sideward.
5. Jumping to side stride stand and return.
6. Single and alternate arm raising upward.

The arm should be raised as high as possible; in a line with the body or beyond it.

7. *Strength and Determination Aim:* Bend and straighten arms (elbows sideward) —— times. The chest should touch the board.

EXERCISES IN SITTING

Apparatus Employed—Horizontal gymnasium ladder (center board) low; benches and stall bars, parallel bar.

On the horizontal gymnasium ladder the exercises are performed in the side or cross seat. The cross seat is obtained from a stand on the ladder by slipping the feet through two

opposite holes and sinking to a seat. The exercises are then executed with the knees bent or straight. From this seat the body can then only be lowered to a lying position rearways on the board. The side seat is obtained from the stand on the ladder by slipping the feet through the two holes beside each other. From this position trunk lowering may be done below the horizontal as on the benches and parallel bar, and with knees straight. Several pupils may mount each ladder at the same time and sit facing in opposite direction. In both these positions the legs are apart.

The seat on the benches is taken with foot grasp on the stall bar.

On the parallel bar the seat is obtained from the inner side, support rearways, by raising the legs forward and pressing the shins against the front bar. Assistance should be used in these exercises.

The exercises given below should be practiced as variations on the different apparatus. Exercises 1 and 2 must be correctly executed before repeating them with arm positions. If difficulty is encountered reserve them for the next grades.

I. Sitting position and exercises in it. (Fig. 13.)

Taken as indicated above with a perfectly straight trunk resting on the buttocks, head erect, and hands on hips. The hands may grasp the apparatus when trunk lowering is taken for the first time.

1. Trunk lowering half-backward.
2. Trunk lowering backward.

Command easily formulated. The trunk should be lowered as a whole with correct posture into the indicated position; i. e., either halfway, into an oblique position or to the horizontal.

3. Exercises 1 and 2 preceded by
   (a) Arms bent upward, or to thrust.
   (b) *Strength and Determination Aim:* Arms raised sideward. Raise trunk —— times.
   (c) Hands rear of head.
   (d) Arms raised upward.

LYING FRONTWAYS AND REARWAYS

I. Lying frontways, arms at side, and exercises in it.

The horizontal gymnasium ladder (with center board) placed as low as possible. Two pupils may mount it at once. Benches. (Fig. 12.)

In this position—

1. Upper trunk bending backward.

Command, upper trunk backward—bend. Straighten.

The head and upper back are bent forcibly backward; chin slightly drawn in to keep the head in proper position. An effort should be made to limit the bending of the spine to the part above the lumbar. Add inhaling and exhaling with exercises in slow rhythm.

2. Upper trunk bending backward and then
   - (a) turn head left and right.
   - (b) place hands on hips.
   - (c) bend arms to thrust or upward.
   - (d) raise arms sideward.
   - (e) raise arms side-upward.
   - (f) place hands rear of head.
   - (g) swimming movement of the arms.
   - (h) Aim: Raise arms sideward, then upward and return.

Command, (as above)—bend. Head left—turn, return. Trunk—straighten.

In the same manner the arm movements are commanded.

A common fault is holding the breath.

II. Lying rearways and exercises in it.

Horizontal gymnasium ladder, two pupils on each ladder. The ladder is placed as low as possible.

1. Lying rearways, with { (a) arms upward. (b) arms downward. (c) hands rear of neck, } { with grip on rounds }

These positions should be frequently practiced. In these positions (a-b particularly):

2. Single, alternate and linked knee raising.

3. Aim: Single, alternate and linked leg raising (half forward and forward; i. e. vertical).

The knees and legs are raised as high as possible without raising the pelvis from the board.

THE KNEE HANG

Apparatus employed { Parallel bar / Horizontal bar / or boom (Fig. 5) } Shoulder to jump high.

The parallel bar with its divided surfaces offers the best opportunities for these exercises. The apparatus is placed shoulder high at first and is gradually raised, thereby increasing the difficulty of the exercise, inasmuch as the legs are to be lifted to a greater height. When the parallel bar has been used at its greatest height it can be followed by exercises on the higher horizontal bar if a continuation of this type of exercise is desired.

PARALLEL BAR

I. The cross knee hang.

1. The inner knee hang left (right) on left bar with outer grip.

The pupils run to the apparatus and grasp the bars with outer grip.

Command, to inner knee hang left over left bar—jump (1); to a stand—jump (2).

The left leg is swung over left bar coming to a hang on the knee. The other leg is in a horizontal line with the trunk and head. Faults: Sagging of chest, head thrust forward.

Other variations of the exercises are—

2. Inner knee hang left (right) on right (left) bar.

3. *Skill and Perseverance Aim:* Double knee hang on left (right) bar on —— high bars.

II. Exercises in the cross knee hang (double, single).

1. Leg raising of the pendant leg.

2. Trunk turning in single knee hang with either arm moving sideward.

3. Arm bending.

4. Alternate hand hopping.
5. Hand jumping.
6. As 3, then head turning.
7. *Skill and Perseverance Aim:* Single knee hang changing { on the same / from one to / the other. } bar. from left to right knee ....times on....high bar.
8. *Skill and Perseverance Aim:* Double knee hang changing from left to right bar —— times.
9. *Strength and Determination Aim:* Change from knee hang (single and double) to a cross seat —— times and dismount. Use the double knee hang as aim. The pupil may sink to hang again after rising to a seat and repeat. This should be adapted to the average ability of the class.

Command as indicated before and add, "change." One arm after the other is placed on the bar, changed to a bent arm support and then straightened. It may also be done by bending arms and immediately changing to a bent arm support one arm after the other and then straightening.

III. The side knee hang and exercises in it.

This exercise may be simplified by raising the near bar higher than the far bar and lowering it gradually until it is level with and later below the far bar.

1. Knee hang left (right) on far bar with upper grip on near bar.

The pupils assume the side stand frontways with indicated grip.

Command, to knee hang left (right) on far bar—jump (1); to stand—jump (2).

The legs are raised forward on the jump and the left (right) knee placed over the far bar. The position is the same as the single cross knee hang.

2. The double knee hang on far bar.

3-7. Repeat exercises 2 to 6 of II in this position.

8. Grasp far bar with left (right) and return (1—2).

9. Grasp far bar with left and right and return (1—4). Assistance.

Playforms:

10. Change from double knee hang to a cross or side seat and dismount. This stunt may be used as a *Skill and Perseverance Aim.*

The pupil winds through the bars by placing head through first and resting it on the near bar, and following with one and then the other arm into the indicated seat.

11. *Skill and Perseverance Aim:* The turnover backward. From double knee hang, grasp far bar and turn over backward to a stand rearways. After grasping far bar with left and right hand, upper grip, the bent body is slowly turned over backward and straightened to a stand. Care.

12. *Skill and Perseverance Aim:* Turn over to double hammock hang. From double knee hang grasp far bar, turn over backward to a single or double foot or nest (hammock) hang; turn over forward (or backward) to a stand.

This is performed as 11 to the hang on far bar; the left (right) or both feet are then placed on the other bar, slowly turning over backward. When the hang is taken on one foot the other leg is straightened under the bar and held in line with the trunk. To turn over forward to a stand the body is slowly drawn back again, knees and hips thoroughly bent while squatting forward under the bar, and then slowly lowered to a stand. The legs may be straightened during the lowering. To turn over backward to a stand the knees and hips are also bent from the nest hang, but instead of squatting forward they are lowered slowly to a stand rearways.

THE HAND HANGS

Fixed Apparatus—Stall bars, vertical ladders, horizontal bar, boom and ladder, oblique ladders.

Movable Apparatus—Rings, ropes and poles.

On the stall bars and vertical ladders the hang is assumed rearways and frontways depending on the kind of exercise and with only one kind of grip. (Fig. 4.)

On the horizontal ladders, it is taken as a cross hang with outer (or inner) grip on beams and upper grip on rounds or a combination grip of two forms (mixed grip), and also as a

side hang like on the horizontal bar and boom with upper, under or mixed grip or grip on rounds.

The apparatus is placed just above reach high and gradually raised to jump high.

The inclination of the gripping surfaces should be considered in the progression of the apparatus employed. The horizontal surfaces offer the easiest possibilities for suspension exercises, the oblique next and finally the vertical. This is particularly to be observed in traveling exercises.

HORIZONTAL LADDER OR BAR

I. The long and short hang with various grips.

1. From the upper grip long hang change to short hang.

Command, to long hang (upper grip)—jump (one, two, three). Body upward—raise, lower. To a stand—jump (one, two, three). The jump into the hang is done in three counts: raise heels (1), bend knees (2), jump upward and swing arms fore-upward (3). The jump to a stand likewise; jump to squat stand, arm in the side position or at side of body (1), raise heels (2), lower heels and arms (3). On the word "raise" the body is drawn upward between the shoulders changing from a passive to an active hang. "Lower," the body returns; the legs are to be kept extended, feet together.

The exercise is then repeated with various grips on different apparatus. The short or active hang should be assumed for all the exercises following excepting when arm bending in the hang is practiced. This begins from sinking to the long hang. These exercises may be preceded by practicing the jump to the (long) hang several times, and when the girls can not yet jump into the hang, by placing the apparatus reach high and then placing feet backward; from here many of the exercises given under II may also be repeated.

2. *Endurance and Tenacity Aim:* Remain in the hang —— seconds.

II. Leg movements in the active hang; various grips. (Fig. 4.)

1. Linked and double foot raising and swinging upward.

The feet are raised back-upward as high as possible, linked and later together a number of times.

Swinging is a rapid movement of the feet upward, when performed by both feet (double) they may be swung upward and lowered downward.

2. Single, alternate, linked, and double knee raising forward.

The knees are raised and lowered slowly a number of times in the manner indicated. They should touch a rope when tested in the aim.

Strength and Determination Aim: Double knee raising —— times.

3. Double knee swinging forward and lowering.

The knees are rapidly raised forward (1) but lowered slowly (2).

4. Single and alternate leg raising (swinging) sideward.

5. Leg straddling sideward and closing.

Both legs are raised sideward as far as possible at the same time without moving them forward (on 1), and again lowered, pressing legs firmly together (on 2).

6. Rapid leg straddling sideward and closing.

7. From the straddle hang (5), rapid leg crossing left (right and alternate) in front and straddling.

8. Single, alternate, and linked leg raising forward (balance hang). Single leg raising —— times may be made a strength aim.

9. Leg straddling left (right and alternate) forward and closing.

The left leg is raised forward and the right backward as far as possible (1) and again slowly lowered (2).

10. Rapid leg straddling left (right, and alternate) forward and closing.

11. From the left forward straddle hang (9) rapid changing of straddle position or double leg swinging in opposite direction.

This consist of a rapid changing of the straddle position from left to right forward by leg swinging.

III. Hand and arm movements in the active hang.

1. Hand hopping with upper (and outer) grip.

(a) *Endurance and Tenacity Aim:* Alternate hand hopping in place —— times.

(b) Alternate hand hopping inward and outward (left 1--2, right 3—4).

(c) Alternate hand hopping to close and open grip (left—1, right—2, return 3—4).

(d) Alternate hand hopping to span and open grip.

On horizontal ladder only (cross hang, outer grip):

(e) Hand hopping left (right, and alternate) forward and backward.

(f) *Endurance and Tenacity Aim:* Hand hopping (alternate) to round (upper grip) and beam, and return —— times.

(g) Alternate double hand-hop { forward, outer / backward, outer / sideward left (right), upper } grip.

The left hand hops twice in the indicated direction and then the right. Body straight, head well raised. Forward and backward are taken in the cross hang and sideward in the side hang.

2. Arm lowering and regrasping.

Single and alternate arm lowering side-downward and regrasping.

As the arm is lowered the body sways to the opposite side; as it returns the arm is again raised and the hand regrasps. Maintain correct posture during the swaying.

3. Traveling or hand walking.

Preferably performed on the horizontal ladder as traveling can here be done both in the side and cross hang. The exercises under 1 are preparatory for these. The distance to be traveled should be constantly increased until ability to travel the entire length of the ladder is acquired. The direction of the surfaces may later be so changed as to increase the difficulty of the exercises. Thus from the horizontal they are gradually raised to an increasing obliquity (oblique ladder)

for certain exercises. Some may also be performed on vertical surfaces.

(a) Traveling or hand walking, forward and backward with
- outer grip on beams
- outer grip on beams and upper on round
- upper grip on round, fellow grasp.

These exercises are performed with short and long steps (outer grip on beams) and where grip is taken on the rounds without and with skipping a round.

Endurance and Tenacity Aim: Traveling forward and backward, grip on beams (rounds) —— times.

Speed and Determination Aim: The same, traveling one length (—— feet) in —— seconds.

(b) Traveling or hand walking sideward left (right) with
- upper grip on beam (outside and inside)
- grip on beam and round
- inner grip on round
- outer grip on round (also mixed).

Traveling with an inside upper grip on beams the hands move from space to space. When grip is taken on beam and round, the round is grasped close to the beam. These exercises are also done with short and long steps and with and without skipping one (or more) rounds.

Endurance and Tenacity Aim: Traveling sideward left and right, grip on beam (rounds) —— times.

Speed and Determination Aim: The same, traveling one length (—— feet) in —— seconds.

Note: a and b progress from being executed on a horizontal to a constantly increasing oblique surface. On the oblique ladder the exercises in the cross hang are taken in the hang frontways and later in the hang rearways, the latter is considerably more difficult than the former.

RINGS (POLES OR ROPES)

IV. The pendulum swing.

The apparatus is adjusted (or grasped) slightly above head high. The single ring may also be used. The pupil grasps the apparatus, walks backward (or forward, if a backward pendulum swing is to be begun with) and on the command, "run," takes several running steps to begin the swing. The pendulum swing is then continued by indicating the number of forward (or backward) pendulum swings and a definite touch-off, as (three backward) pendulum swings with:

(a) A three step touch-off (i. e., l. r. and l., or r. l. and r.).

(b) *Skill and Perseverance Aim:* A two step touch-off (i. e., l. and r., or r. and l.).

(c) A double touch-off (feet closed when touching).

(d) A three step touch-off forward and a double backward.

(e) A two step touch-off forward and a double backward, etc.

Other alternations may be practiced. These exercises may be preceded by a touch-off of an indefinite number of steps; i. e., "pendulum swings with running steps."

At the end of the forward movement the legs should be closed and swung forward in addition to the pendulum motion, while the body is slightly arched with legs closed and swung backward at the end of the backward pendulum swing. The tendency to sink into the passive hang and thrust the head forward should be guarded against.

The pendulum swing is terminated by:

1. Coming to a stop in the center of the forward swing (usual method).
2. A backward jump-off (higher grades).
3. A forward jump-off (higher grades).

The last two occur at the end of the indicated swing. Care must be taken when first trying them. The pendulum swing preceding is taken (preferably) without a touch-off to prepare for the jump-off. Turns (quarter and half) may be added to the jump-off forward and backward. The latter is the most difficult.

"The arm-hang pendulum swing" is performed on the rings by placing the arms through the shoulder high rings and grasping them. It is practiced as the ordinary pendulum swing.

It is advisable not to begin this form of swinging until the pupils have developed sufficient strength in the muscles joining the shoulder girdle and arms to the thorax to easily maintain the active hanging position when suspended by the upper arms.

"The side pendulum swing" consists of a swinging movement to the left and right with a similar touch-off as the forward.

On the rings a circular swing similar to the above may also be practiced. The touch-offs occur on each side of the described circle.

V. Leg exercises at either end of the pendulum swing.

The exercises given under II, Horizontal Ladder, excepting 7 and 11, are repeated at the end of the forward or backward pendulum swing. The exercise being of short duration all the movements are performed as swings; e. g., single, alternate, linked, and double knee swing forward. Command, six pendulum swings forward, two step touch-off and double knee swing forward at end of the swing. The same at the end of the backward swing. The quick swing forward is immediately followed by the downward swing of the legs so as to be ready for the backward touch-off.

Skill and Perseverance Aim: The same at both ends of the pendulum swing.

SUSPENSION ACTIVITIES PECULIAR TO CERTAIN APPARATUS

SINGLE AND DOUBLE POLES AND SINGLE AND DOUBLE ROPES

With few exceptions, the exercises are first taken on the single pole, then on the double poles in alternation with exercises on the single and double ropes.

I. Preparatory exercises for the climbing position.

1. Grasp pole, reach high, raise right knee and place shin against pole. Hands are together with left hand above; the

knee should be raised above the horizontal with the foot on the left and the knee on the right side of the pole, firmly gripping it.

2. Place left leg around pole.

The left leg is placed about the forward surface of the pole with the heel on the right side of the pole, firmly gripping it between heel and knee.

3. As 1, then raise left leg { Forward / Backward / Sideward }

The position is assumed on one, and the leg raised in the signified direction on two. Return to a stand on three. The shin should be braced against the pole so that the body will not touch it during the leg raising.

4. Repeat 3 with grip head high (i. e., arms bent).

These exercises (1-4) are not absolutely necessary in the development of the climbing position, but assist in acquiring gripping power in the knees.

Preparatory climbing exercises. They are intended to give good control of the body in the climbing position developing ability to grip the pole (rope) firmly with feet and knees, so that climbing will not be so difficult. Teaching the *climbing position in sitting, using wands as you would poles,* to the entire class enables the pupils to learn it quicker.

II. The straight (arm) climbing position and exercises in it.

1. The straight (arm) climbing position left in two counts.

Grasp pole, reach high, and raise right knee on one; place left leg around pole on two. The knees should be at least hip high, preferably above it, the arms remain straight; the body does not come near the pole, the pole is gripped with the feet and the knees. The same right.

2. Single and alternate hand grasping downward and upward in the straight climbing position. The left (or right) hand grasps some distance below its grip (1) and returns (2). The number of repetitions depends upon the pupil's ability to hold the climbing position. In alternate hand grasping the

right hand repeats the movements. These and the following exercises are *repeated in each climbing position.*

3. Arm bending and straightening in the straight climbing position. Bend on one, and straighten again on two. The hips are somewhat straightened as the arms bend.

4. Knee lowering and raising in the straight climbing position. Lower knees on one, and raise on two. In raising, the rear knee is raised first, gripping the pole after being raised, so that the front knee can more readily be raised. The two movements should, however, follow in quick succession. Later they may be raised simultaneously. The arms remain straight.

5. Alternations.

Alternate 2 and 3, or vice versa.

Alternate 3 and 4, or vice versa.

6. *Endurance and Tenacity Aim:* Hold the climbing position for —— seconds.

III. The bent (arm) climbing position and exercises in it.

1. The bent climbing position left in two counts. The execution is the same as that of the straight climbing position excepting that the pole is grasped head high and the arms bent in the final position. The position is assumed three to four times. The same right.

2. Single and alternate hand grasping upward and downward in the bent climbing position.

3. Knee lowering and raising in the bent climbing position.

4. Alternate 2 and 3.

IV. Jump without and with turns into bent (arm) climbing position.

1. Jump to bent climbing position left in two counts.

Endurance and Tenacity Aim: Hold the bent climbing position —— seconds.

Grasp the pole on one, and jump into the indicated position on two. Jump to a stand on three (squat stand) and four (position). Three or four times with a pause after each. Care must be taken that the knees are properly raised. The same right.

2. Jump with quarter turn left into climbing position left. The body turns with the jump so that the pupil faces left during the exercise. Four such jumps bring him back to his place. The same right.

3. In these positions repeat exercises 2, 3 and 4 under III.

V. Alternate bent climbing positions with and without intermediate jumps.

The bent arm climbing position should be assumed in all the exercises following and in two counts, i. e., grasp pole on one, and jump into position on two.

1. Climbing position left (three or) four times with intermediate jump. The climbing position is taken on—one, two—jump, three, four; the pupils jump to a stand, knees bent (3) and immediately again jump to a climbing position (4). The same right.

2. *Endurance and Tenacity Aim:* Alternate climbing position left and right with intermediate jump —— times.

3. As 1, with a quarter turn left on each jump. The same right. (Single pole.)

4. As 2, with a quarter turn left and right with the jump (single pole).

5. Alternate the climbing position left (right) and the bent-hang. Command: Jump to climbing position left, change to hang and return to climbing position. The climbing position is taken on one, two. On three the legs are straightened and closed in rear of the pole, but only momentarily, the climbing position left being immediately again assumed on four. Jump to a stand on five. Several times.

6. Aim: Alternate climbing position left and right. Command: Jump to climbing position left, change to climbing position right. The change occurs by passing through the momentary bent arm hang. The last two exercises (5 and 6) can be given in the straight climbing position. If difficulty is encountered it is advisable to give them in this manner first.

7. *Skill and Perseverance Aim:* The climbing position in the pendulum swing.

The pupil grasps the pole and walks backward. On the command, "run," he runs forward, the hands gliding up the pole (or rope) as he runs, and jumps to the climbing position named as he passes beyond the center of his swing. The jump-off occurs at the end of the next or second backswing. Single or double ropes or poles.

VI. Jumping into climbing positions on the swinging poles.

1. Walk backward with pole, run forward, and jump into climbing position as V, 7.

2. Jump into climbing position on the still hanging pole. The pupil stands about 5-6 steps distant from the pole, runs forward, and jumps into a climbing position. The jump-off occurs at the end of the backward pendulum swing thus produced.

3. *Courage Aim:* Jump into climbing position on the swinging pole. The pupil walks backward with the pole, permits it to swing forward and backward, taking care that this occurs in a vertical plane, and, running, follows it in its next forward swing, jumping into the climbing position at about the center of the pendulum movement. The jump-off occurs at the end of the next backward swing. The exercises may be changed to bent arm hangs instead of climbing position.

Exercises 1, 2 and 3 may also be done as follows: Count off the pupils at the poles into ones and twos. Number ones go forward and twos backward, and face each other. Number ones run forward, and as they swing backward number twos run forward, etc.; or both ones and two run forward at the same time, swinging in opposite direction. Care must be taken to align pupils accurately so that they will not run into each other. Care.

VII. Climbing with different grasps.

1. Climbing with follow-grasp.

From the bent climbing position, the upper hand grasps upward, the lower hand following and the hips simultaneously straightening. The knees are then raised and the arms again bent. For downward climbing the movements are reversed.

2. Climbing with over-grasp.

As 1, but the lower hand grasps above the upper hand and the other hand does the same so that the hands will again have the same relation to each other.

3. *Strength and Determination Aim:* As 2, climbing a definite distance upward.

4. *Speed and Determination Aim:* As 2, a definite distance in —— seconds.

5. *Endurance and Tenacity Aim:* As 2, climbing for distance.

Exercises 3 and 4 should be carefully applied, the requirements being well within the ability of the pupil.

SEE SAW (WHIPPLE OR SWINGING LADDER)

The rather risky nature of these exercises makes the advisability of their use somewhat questionable. The danger may, however, be reduced considerably by reserving them for capable pupils, with well developed gripping powers, and taking all necessary precautions to eliminate danger. If the see-saw is placed on a horizontal bar, a bench or other object should be placed directly beneath the bar to prevent the see-saw from circling about it in case someone should accidentally let it go and thereby striking as it may happen, the pupils. Care should furthermore be taken to hold the ladder steady when alighting from the downward swing and not attempting arm bending, either in the squat stand or at the end of upward swing until the power of bodily control during swinging has been thoroughly developed.

It is best not to adjust the ladder above reach high. These exercises are included to make this book complete, but may, without loss, be omitted, as there is no specific value attached to them, unless it be of a recreative nature, for they seem to be thoroughly enjoyed by older girls and by ladies.

VIII. Straight arm swinging in the cross hang frontways, outer grip on beams, with leg exercises.

1. Straight arm swinging.

The arms are kept as straight as possible in the squat stand on the floor and during the swinging. The pupils should be careful to yield gradually into the squat stand with-

out jerking and likewise rise gradually. This should be thoroughly learned before the following exercises executed during the swinging are attempted.

2. Alternate and double foot swinging backward.

The foot is swung during the upward movement and lowered during the downward swing. Alternate movements are done, one (left) on the first upward and downward swing and the other (right) on the second upward and downward swing, etc.

3. Single and alternate knee swing forward.
4. Single and alternate leg swing, forward, sideward.
5. Leg straddling sideward.
6. Leg straddling, left (right) forward.

THE CIRCLE SWING (GIANT STRIDE)

These exercises begin from two formations—

1. The front formation (facing the center).
2. The flank formation (left or right side turned toward the center).

Preparatory exercises are: Grasping a round with upper grip from the front formation and walking sideward left or right; and grasping a round with one hand, upper grip, and walking forward from the flank formation. They are only taken to acquire the habit of keeping the rope taut and moving on as large a circle as the length of the ladder and rope permit. But little time need be spent on them. The simple dance steps and exercises in running must, of course, be practiced previously during floor work before taking them on the circle swing. Many other steps than those suggested may be practiced on the giant stride, but their value is questionable when given under such conditions; it seems as though they might defeat their very aim, that is, gaining good bodily control as expressed in graceful movements during walking and springing. (The following exercises are partly selected from Maul's works.)

IX. Exercises in the forward direction from the flank formation.

The pupils should stand in an open circle, right side toward the center, grasping a round of the ladder with upper grip

with right hand and a lower round under grip with left hand, ladder in front of body. The distance between the hands depends upon the distance which the rounds are apart and upon the size of the pupils. Usually there is one round between the hands. The exercises are repeated with the left side toward the center.

1. Running forward.

2. Running forward with
   - knee swing
   - foot swing
   - leg swing forward
   - tagging pupil in front.

3. Galloping forward, left, and right, and alternate, viz.: (1) Changing on command. (2) Eight or four gallops left and then right.

4. Skip step forward.

5. Skip step forward with
   - knee swing
   - foot swing
   - leg swing forward.

6. Aim: Appropriate alternations of 1-5 changing: (1) On command. (2) After a definite number of steps (as under 3). Permit pupils to make their own alternations.

7. Alternations of 1 to 5, with flying. Change on command. Appropriate grips under 8 may be selected. The ordinary hang is the best, however. During the period of flight the body may be extended; the feet raised backward; or, preferably, the knees raised forward. Flight with extended body cannot be of long duration. The period of flight should at first be of short duration and occurring as the last movement. Later the period of flight is limited to a definite number of counts and alternated with a definite number of running steps, e. g.:

5 running steps and 3 counts flying.
7 running steps and 5 counts flying.
9 running steps and 7 counts flying.

This may be followed by a playform, which may also be made a *Skill and Perseverance Aim*, circling once in running and then once (or about twice) in flying.

8. These exercises are repeated with: (1) upper grip

with inner hand on a round (lowest one) and the outer arm free or in the side position; (2) the ladder held in rear, the grip being the same as described under IX, "Exercises from the flank formation." This is obtained by slipping the inner arm through the second or third space and then grasping a round. (3) The ladder overhead, the outer arm also raised upward. (4) The inner arm has upper arm hang on a round while the outer hand grasps a round or the rope with the ladder in front. This one should be omitted in girls' classes.

X. Exercises in a sideward direction from the front formation.

With: Upper grip on same round; outer grip on the ropes.

1. Galloping left (right) sideward.
2. Running left (right) sideward with closing steps.
3. Running left (right) sideward with front cross-steps.
4. Running left (right) sideward with rear cross-steps.
5. Skip step left (right) sideward with front cross-steps.
6. Skip step left (right) sideward with rear cross-steps.
7. *Simple Skill Aim:* Appropriate alternations of 1-6 changing: (1) On command. (2) After a definite number of steps. Ask the pupils to make their own alternations.

THE SUPPORT

Sidehorse (Fig. 9)
Low horizontal bar and boom
Side parallel bar
Low horizontal ladder
} Waist to shoulder high.

The apparatus is gradually raised as the jump into support becomes easier. The exercises are then repeated or continued on the higher apparatus. The support is taken with various grips excepting on the pommels of the side horse, where it is always assumed with outer grip.

I. Jump to support with various grips and quarter turns; jump-off with quarter turns.

1. Jump to support with { upper (over) / mixed / under } grip.

The pupils assume a previously signified stand at the apparatus. Command, jump, one, two, three. Raise heels and grasp apparatus with indicated grip on one; bend knees on two; jump to support on three.

Faults: Head and chest sinking between shoulders. Legs bent and apart. Emphasize straight arms and chest up.

To a stand jump, one, two, three, the reverse of the jump to support; to be repeated several times. It may also be practiced from a few steps start. The pupil alights in the squat stand with grasping the apparatus after the preliminary steps, and then jumps into support. Ability to alight in the squat stand (double take-off) preparatory to jumping into support, is usually lacking. This should therefore be frequently practiced.

2. Jump to support with various grips and jump-off with quarter turn left (right). The pupil thrusts himself away from the apparatus during the jump-off, simultaneously turning, so that the arm of the hand retaining the grip will be straight when he alights in the squat stand, the other arm is in the side position, the grip is released on three.

3. (a) Jump with a quarter turn left (right) into support with upper grip. The pupil begins from a stand with his side turned toward the apparatus.

(b) As a, and jump-off with a quarter turn left or right.

4. *Strength and Determination Aim:* Jump to support on —— high bar —— times. Adjust the height and number of times to the ability of the pupil.

II. Jump into momentary support, various grips, with leg exercises.

(1) Jump into momentary support; then with:
(a) Leg swinging sideward.
(b) Leg straddling sideward.
(c) Knee swinging sideward.
(d) Jump-off with a quarter turn.

In the momentary support the body rises above the apparatus, thoroughly extended, but does not touch it or pause, coming immediately again to a stand. Given from a stand or

running start. In the latter form on higher apparatus and to acquire the double take-off.

III. Leg exercises in support.

Jump into support and then:

1. Single and alternate knee raising sideward.
2. Single and alternate leg raising sideward.
3. Single and alternate knee placing on horse, outside of hands (also between).
4. Single and alternate leg placing on horse.
5. *Simple Skill Aim:* Single and *alternate* foot placing outside of hand, knee bent.
6. 1-5 and jump-off with a quarter turn.
7. Jump-off from position 3-5.
8. Jump-off with a quarter turn from position 3-5.
9. Single and double knee mount.

These exercises are first to be given on the side horse and later on the other apparatus named (excepting exercise 9).

HORIZONTAL BAR OR BOOM

IV. The turn-over forward from support with various grips.

1. *Skill and Courage Aim:* Support with under grip, turn-over forward to a stand frontways.

The exercise should be done slowly, bending knees, hips and arms, as the trunk sinks below the horizontal. The arms are kept thoroughly bent during the whole exercise, thus drawing the body underneath the bar to a stand frontways. Assistance should be given when trying it for the first time.

2. As 1, with mixed grip.
3. As 1, with upper (over) grip. Exercises 2 and 3 can be taken up in the next grades.
4. Turn-over into hang-lying or hang-stand position. Exercise in it.

BALANCING EXERCISES

THE BALANCE BOARD

These exercises are practiced in two ways, viz.: in a free manner, in which each pupil exercises for himself, and in a

rhythm indicated by the instructor, in which case all the pupils on the boards exercise in unison. Their difficulty should be constantly increased, particularly when repeating an exercise, by changing the arm positions accordingly. Neighbors' hands are not to be grasped during the execution of balancing exercises. The head is to be kept erect and the foot placed upon the board without looking at it.

No command is used when performing exercises in a free manner. As many pupils as there are boards run forward on command to the place the exercise is to start from and begin after those who have preceded them are about halfway. If the exercise is to be performed in unison, the pupils at the board step on the board with their right foot and start the indicated exercise upon the command *"begin."* The movements composing the exercise need not be given on command since they have been previously learned, but the exercise should be named and demonstrated.

I. Forms of walking and dance steps from the cross-stand and side-stand at end of board.

1. Balance-walk forward with common step; with toe-walk; with follow-step.

2. Balance-walk sideward left (right) with closing step and front cross-step.

II. Balance-walk forward, sideward, and backward, with two-movement leg exercises.

1. With foot placing without and with bending opposite knee:

(a) Foot placing on board.
(b) Foot placing on floor.

2. With raising the bent knee.
3. With raising the straight leg.

Examples—(a) Place left foot forward (on board, on floor)—1. Step forward—2.
(b) As a, with bending opposite knee on 1.
(c) Swing left knee (leg) forward—1. Step forward—2.

III. Three movement leg exercises in the balance walk in various directions leading to dance steps.

1. Raising the bent leg (on one) and foot placing on the board (or floor) without and with bending the opposite knee (on two) and then stepping forward, sideward, or backward (on three).

2. As 1, but vice versa, i. e., begin with foot placing.

3. As 1, but leg straightening in place of foot placing on two.

4. Raise the straight leg and then carry or swing it.

Examples—(a) Swing left knee forward—1. Place left foot backward (board, floor)—2. Step forward—3.

(b) *Skill and Determination Aim:* As a, but straighten leg backward on 2 for —— length of the balance board. Also stepping backward.

JUMPING

For High and Broad Jump as class work, refer to Track and Field Activities. In the lower grades these activities may be given as play forms not insisting upon accurate execution. Four or more may jump at one time: (a) from a stand; (b) from a running stand. For the high jump pupils may jump over wands held by classmates and gradually held higher after each jump. Or jump over a kneeling pupil.

The *deep jump* should also be practiced in these grades. It is taken from stands on the horse and vertical ladder or stall bar and executed without and with quarter and half turns. On the vertical ladder and stall bar the deep jump may be made part of or alternated with exercises in the hang.

Courage Aim: Deep jumps forward from the —— round.

Occasionally let the pupils repeat jumps frequently following each other in rapid succession to acquire strength. This is then followed by jumping with placing emphasis upon form and control, taking more time for each execution. This procedure should be applied to jumping through all the grades.

THE LONG JUMPING ROPE (PLAYFORMS)

The long jumping rope and the circle swing are typical playground apparatus because of the recreative value of the exercises performed upon them. Besides these the climbing poles and ladders as well as the rings, head high, and the horizontal bars, chest high and head high, upon which pleasing stunts may be done, are also found on well equipped playgrounds.

I. Running, hopping, and jumping over the rope which is held still or swung moderately to and fro.

II. Exercises under the rope which is swung headward.
Examples—

1. Passing under the rope in a free manner; in regulated order, i. e., every fourth, third or second swing; or on command and in unlimited or limited number in running or skipsteps.
2. Same as 1, with arm positions, leg exercises, and half and whole turns.
3. Same as 1, with placing objects on the floor and picking them up again.
4. Same as 1, as competitive exercises for several divisions exercising with one rope, or as many as there are divisions.

III. Running under the headward swinging rope in combination with tactics.
Examples—

Running through in flank rank and then passing around swinger and post in form of the figure 8; the same in couples (encircling outward), the same skipping, or galloping forward or sideward.

IV. Running into the headward swinging rope and exercises in it.
Examples—

1. Running into the rope, springing in it on both feet or on one foot with or without intermediate spring, and running out at will. (The hopping on one foot may be combined with positions of the other leg.)

2. As 1, with a limited number of springs; with quarter, half and whole turn; with squatting; with running out backward; with running out toward starting place.

3. Running in singly and relieving each other.

4. *Skill and Perseverance Aim:* Jumps with quarter turns and run out to starting place.

V. Exercises in the rope which is swung footward (or headward).

1. Springing on one or both feet with simple arm exercises.

2. Dance steps, such as leap-hop, swing-hop, balance-hop, etc.

3. Tactics in the rope, such as: *wheeling,* forming of the rank members, ring, *encircling* in front and flank rank in ranks of 2.

4. *Skill and Perseverance Aim:* Jumps with half turns and run out backward away from starting place.

Aim Chart for Grades IV-VI

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Skill and Perseverance	Double kneehang on l (r) bar	Par. Bar....high.	70	
	Single kneehang changing....times	Par. bar....high.	71	
	Double kneehang changing....times	Par. bar....high.	71	
	Change from side double kneehang to seat	Par. bar....high.	72	
	Turn over backward from double kneehang	Par. bar....high.	72	
	Turn over backward to hammock hang	Par. bar....high.	72	
	Two-step touch-off....pendulum swings	Rings.	77	
	Same with double knee swing each end	Rings.	78	
	Jump to climbing position in pendulum swing	Ropes or poles.	81	
	Run once around, fly once around	Circle swing.	85	
	(Simple) Alternations in sideward movement	Circle swing.	86	
	Alternating footplacing in support	Bar.	88	
	Turn over from support (courage)	Bar.	88	
	Balance walk forward, raise knee, straight backward and step forward, board length	Bal. board.	90	
	Headward swung rope....jumps with one-quarter turns	Long Jp. rope.	92	
	Footward swung rope....jumps with half turns	Long Jp. rope.	92	
Strength and Determination*	Arm bending in hang lying....times	Hor. B. hip high.	66	
	Arm bending in hang lying....times	Hor. B. kn. high.	66	
	Push upwards in support lying....times	Hor. B. kn. high.	67	
	Push upwards in support lying....times	Balance board.	67	
	Sit-up with arms sideward....times	Gym. ladder.	68	
	Change to seat....times from cross knee hang	Parallel bar.	69	
	Jump to support....times	High bar.	87	
	Double knee raising....times	High bar.	74	

Aim Chart for Grades IV-VI—Continued

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Courage	Ascend to top of ladder and return	Vertical ladder.	60	
	Jumps to climbing position on swinging pole	Poles.	82	
	Deep jump forward from....round	Vertical ladder.	90	
Endurance and Tenacity*	Hanglying, hand jumping outward and inward....times	Bar....high.	65	
	Hold the straight hang....seconds	Bar or ladder.	73	
	Alternating hand hopping in hang....times	Bar or ladder.	75	
	Alternating hand hopping to round and beam....times	Ladder.	75	
	Traveling forward and backward....lengths	Ladder.	76	
	Traveling sideward, left and right....lengths	Ladder.	76	
	Hold climbing position....seconds	Poles, ropes.	80	
	Hold bent climbing position....seconds	Poles, ropes.	80	
	Jump to alternating bent climbing position....times	Poles, ropes.	81	
Speed and Determination*	Traveling forward, one length in....seconds	Ladder.	76	
	Traveling backward, one length in....seconds	Ladder.	76	
	Traveling sideward l (r) length in....seconds	Ladder.	76	
	Traveling forward and backward 2 (3) length in....seconds	Ladder.	76	

*See page 83 for additional aims.

GRADES VII-IX

HANGLYING POSITION AND EXERCISES IN IT

HORIZONTAL LADDER, BAR, OR PARALLEL BAR

I. In the hanglying position frontways.

1. Bend arms (elbows sideward) and then:
   - (a) head turning
   - (b) single knee raising
   - (c) Single leg raising
     - forward
     - sideward

Command, arms—bend. Left (r) knee forward—raise. Lower. Arms—straighten. Or, after the exercise has been named, count one, two, three, four. Correct position must be maintained during the movements. The number of executions of a to c, may be increased in accordance with the ability of the class upon repetition on different apparatus. Holding the breath is a common fault occurring with these exercises.

2. *Simple Endurance Aim:* Bend arms (elbows sideward) and then: a to c of 1 as alternate movements.

3. Bend arms and
   - (a) turn head left
   - (b) raise l. (r) knee forward
   - (c) raise l. (r) leg
     - forward
     - sideward
   - (d) Aim: alternations of a and b, and a and c.

Command as indicated in the exercises—bend, straighten. Bend, the bending of the arms and the movement of the part (a-c) indicated occur simultaneously. Straighten, they return to the hanglying position.

4. Single and alternate knee raising, straightening forward and lowering.

Command, left knee forward—raise. Forward—straighten (Fig. 7), leg—lower. Or by counting. Instead of lowering, the knee may again be bent (on three) and then lowered (on four).

The exercise may also be reversed:

Single and alternate leg raising forward, knee bending, straightening and lowering.

Faults: Knee and hip bending; chest sinking; head drooping.

5. Bend arms and then:

(a) Alternate hand hopping { in place / inward and outward

(b) Single and alternate grip changing.

6. *Endurance and Tenacity Aim:* Alternate grip changing —— times in the bent hanglying position, bar knee high.

7. *Strength and Determination Aim:* Arm bending —— times on knee high bar.

II. In the hanglying position rearways. (Arms upward.)

1. Aim: Arm bending and straightening (elbows sideward).

III. In the hanglying position sideways left (right).

1. Alternate head turning.
2. Single leg raising.
3. Alternate 1 and 2.
4. Combine 1 and 2.

IV. Alternations of two hanglying positions.

The same with exercises in them. These may be readily arranged from the above.

RINGS OR ROPES

V. Hanglying changing by double leg swinging and with feet fixed.

1. From frontways to sideways left (right).
2. From frontways to left (right) and rearw.
3. From sideways left to sideways right.

{ Apparatus no less than chin high.

Command, forward to hanglying (frontways)—step. Legs left (r) sideward to hanglying—swing. Forward—swing, etc. To a stand—step (or jump). This may be repeated several times. For (2) the command is changed to: legs left

(r) sideward and backward—swing. From this position they may return by the same or the opposite direction. Likewise in 3. All the exercises may at first be executed by walking from one position to another by small steps; then by small jumps, and finally by swings (not too rapid).

4. Hanglying changing with feet fixed from	(a) frontways to rearways (b) sideways (l) to sideways (r) (c) frontways to sideways (l r) (d) rearways to sideways (r l)	App. no less than shoulder high.

Command, forward to hanglying—lower. Backward, feet fixed—change, etc. To a stand—rise. The perfectly extended body may be changed several times from one position to the other.

Faults: Hip and knee bending during the change.

5. *Skill and Perseverance Aim:* Hanglying circling l (r) from frontways —— times. (Apparatus no less than chin high.)

Command—begin. The circling is begun to either side after lowering the body backward to hanglying position (frontways). The feet are firmly fixed. The body must be kept turned forward; there is a strong inclination to turn the body as the side of the circle is reached, and to bend arms and knees at the fore part of the circle.

Playform—If several sets of rings are close together so that the space between the pairs of rings may also be used, permitting three pupils to hang on two pairs of rings (7 on 4 pairs, etc.), the circling can be performed without any possibility of turning. The exercises given under 1-4 may also be done in this way. They may be done by twice this number if two pupils stand side by side or back to back in each pair of rings and between each pair.

7—61550

THE SUPPORT LYING POSITION AND EXERCISES IN IT

BALANCE BOARDS (BENCHES)

I. Exercises in side support lying frontways (Fig. 10), arms vertical.

1. Alternate hand hopping in place.*
2. Alternate grip changing.*
3. Alternate arm raising.*
4. *Strength and Determination Aim:* Arm bending —— times.*
5. Hand jumping.*

(a) in place.

(b) to close and span grip.

(c) *Strength and Determination Aim:* with double grip changing —— times.

6. Quarter turn left (r) to support lying sideways on right (l) arm.

The feet close with the turn; the body rests on the side of the foot; the left arm is placed at the side of the body.

(a) Leg raising sideward.

(b) Arm raising side-upward may be taken in this position.

7. Alternations. Select exercises from grades I-VI, p. 67, and from grades VII-IX that will make suitable alternations. Let the pupils select.
8. Single and alternate leg raising backward, with arm bending.
9. *Simple Skill Aim:* Arm raising upward with opposite leg raising backward (balance).

II. Support lying rearways, with under grip, arms vertical, and exercises in it.

This position is obtained as I, but from a stand rearways and by stepping forward instead of backward.

Faults: Sunken chest, head forward, hips bent.

In this position:

1. Head turning.
2. Single and alternate knee raising forward.

*The exercises may be given with feet apart and later with the heels together.

3. Single and alternate leg raising forward.
4. Quarter turn left (r) to support lying sideways.
5. Half turn left (r) to support lying frontways.

III. Alternations of support lying frontways and rearways (between balance boards).

Aim: The positions are changed by a spring from the feet, double knee raising and straightening forward into the position rearways.

The change may be preceded and followed by exercises selected from I and II.

LYING FRONTWAYS AND REARWAYS

I. Inverted lying frontways on oblique gymnasium ladder with toe hang on rounds and exercises in it.

Command, as indicated. On the word "run" the pupils run up the board, face about and assume the straddle seat. From this seat the hands travel downward on the rounds until the body is in an inverted position lying on the board, the hands retaining their grip on the rounds with arms upward, head raised, and chest slightly arched. The toes are then placed upon the rounds. "Return"—with the grip still on the rounds, change to a stand on the board and run forward down the board, returning to the alignment. Obtaining this position with retaining a supporting assistance from the hands with arms upward should be frequently practiced. The ladder is adjusted at an angle of about 20 to 45° to the horizontal.

In this position:

1. Alternate and simultaneous hand lifting.
2. Arm raising sideward and return.
3. Arm raising side downward and return.
4. Place hands on hips, or bend arms upward.
5. Arm raising upward; or hands rear of head.
6. *Endurance and Tenacity Aim:* Swimming movements of the arms —— times.
7. Repeat 2, assuming the lying position with the upper trunk bent backward.

In these exercises (1-7) the hands at first regrasp the rounds but later are placed flat upon the board.

Particular care should be taken in adapting the exercises to the strength of the pupils. It is better to progress slowly, gradually increasing the exertion, and thus develop strength without loss of form than to execute new and more difficult exercises at the expense of good posture. When exercises from this topic are given they should be selected from lying rearways and frontways.

BENCHES AND STALL BAR—PARALLEL BAR

II. Lying frontways and exercises in it.

1. Trunk lowering forward. Fig. 12.

The lying position is assumed by fixing feet under the stall bars and resting thighs near pelvis on the benches. It becomes more difficult as the benches approach the knees.

On the parallel bars the lying position is obtained from the inner side support on the front bar by slowly lowering the body forward and raising the legs under the rear bar. The hands at first retain their grip.

Command, trunk forward—lower, raise.

The trunk is lowered as far as possible with exhaling and raised with inhaling.

(a) The exercise is repeated with arm positions previously assumed, e. g., hands on hips, arms sideward, etc.

Command. Hands rear of head—place. Trunk forward —lower, etc.

(b) These exercises are followed by those in which arm movements are performed in the assumed horizontal lying position frontways, on benches and parallel bar.

Examples—

Head left—turn.
Hands on hips—place.
Hands front of shoulders—place.
Arms upward—bend.
Arms sideward—raise.
Arms side-upward—raise.
Hands rear of head—place.

III. Lying rearways on horizontal gymnasium ladder.

1. Double knee raising. (The arms are upward and grip taken on the rounds.)

2. Double leg raising (half forward and forward, i. e. vertical).

3. *Strength and Determination Aim:* Double knee and hip raising —— times.

The knees are raised as high as possible and then further by raising the pelvis from the board so that the knees approach the face and the body rests upon the shoulder blades.

4. *Strength and Determination Aim:* Double leg and hip raising —— times.

Executed as the previous exercise with knees thoroughly extended. The body may turn over backward so far that the toes will touch the board above the head, particularly during the test.

5. Single, alternate, and double knee raising, straightening, and then lowering; this is executed in three movements, the straightened legs being lowered on three. It may be changed to a four-movement sequence by rebending the knees on three and lowering them on four.

6. As 5, but begin with raising legs.

IV. Oblique lying position rearways on gymnasium ladder.

The apparatus is placed at an angle of about 20-40° to the horizontal.

1. Oblique lying rearways, with { (a) arms upward } grip on / (b) arms downward } rounds.

Command, as indicated. "Run," the pupils run up the board, grasp the apparatus, face about, and lower the body to the lying position with the signified grip. "Return," the pupils rise to a stand and run forward down the board or rise to a seat and slide down.

In this position repeat single, alternate, linked knee and leg raising and the exercises under III.

As the ladder approaches a greater angle the exercises increase in difficulty. The teacher may thereby grade the exercises accordingly. When the ladder has finally been placed

at an angle of 45° or thereabouts, the exercises can only be executed with *arms upward, grip on rounds,* and those including *hip raising* will be found difficult of execution, only the strongest accomplishing them. These exercises should be continued in the grades following. The others may be continued until the ladder is in the vertical position. Stall bars, boom, horizontal bar or ladder (jump high) can then also be used.

V. Inverted lying rearways on gymnasium ladder with knee hang on rounds. (Fig. 17.)

There is a constant increase in difficulty as the ladder approaches a steeper obliquity. At first the ladder should be placed nearer the horizontal than was the case in *oblique lying rearways.*

FIG. 17

Axes relation: both, a cross position.
Position: cross seat; lying rearways.
Activity: trunk lowering and raising.

Command, as indicated and as under IV. The pupils run up the board, grasp the ladder, and slip the feet through two holes opposite each other on each side of the board, coming to a sitting position on it. The body is then slowly lowered into the lying position and held in position by the bent knees from which it is partly suspended. The arms are at the side. The pupils return by reversing the movements, coming to a stand on the rounds, facing about, and then running forward down the board.

In this position:

1. Trunk raising and lowering.

Faults: Sinking of chest, drooping head.

2. Exercise 1 preceded by—
   (a) Hands placed on hips.
   (b) Arms bent upward, to thrust, etc.
   (c) Arms raised sideward.
   (d) *Strength and Determination Aim:* —— times, with arms raised upward.
   (e) Hands placed rear of head or neck.
3. Exercise 1 followed by—
   (a) Head turning.
   (b) Arm straightening sideward or upward.
   (c) Aim: Arm raising sideward or upward.

THE SPAN-BEND

Apparatus
1. Stall bars
2. Vertical gymnasium ladder
3. Horizontal bar, boom or ladder

The stall bar with its short distance between rounds is most suitable, as it offers better opportunities for gripping. The vertical gymnasium ladder is next in importance, followed by the other three apparatus which must be raised to the proper height for the execution of the span-bend.

1. The span-bend. (Fig. 1.)

The pupils take a stand rearways to and about one foot-length's distance from the apparatus.

Command. Arms, fore-upward—raise. With falling, upper trunk backward—bend, straighten. Repeat, bend, etc. After the arms have been raised upward with palms turned toward each other, and upon the word "bend," an effort is made to straighten the spine followed by a forceful backward bending in its thoracic region accompanied by inhaling, a falling movement of the body, and a pressing backward of the arms so that the forefinger will rest on the apparatus, when not grasping it, and thereby support the body. On the word straighten, the body returns with exhaling to its starting position. The bending of the spine should not be extended to the lumbar region, the abdominal muscles must be firmly stretched, the wrist kept straight when supporting the body, the head

not alter its correct posture and the legs kept in a vertical position.

Faults: Knee and hip bending; forcing the pelvis forward, and bending lumbar spine by relaxing the abdominal muscles; bending of the shoulder joints which permits it to sink.

The span-bend (Swedish) is a classical exercise for improving the posture of the upper trunk. It is also to be practiced with grasping the round with under grip, i. e., from below.

2. Span-bend from the side stride stand.

Executed as the previous exercise from a previously assumed side stride stand.

3. Exercise 2 followed by heel raising.
4. Exercise 1 followed by—
   (a) Single, alternate, and linked knee raising.
   (b) Single and alternate leg raising forward.
   (c) Knee raising (1), straightening forward (2), leg lowering (3).
   (d) As c, with return movements on 3 and 4.
   (e) As a and b with heel raising.

These exercises (1—4) are then repeated by gradually increasing the distance of the stand from the apparatus to two and three (or more) foot-lengths.

5. Alternate span-bend and hanglying.

After the span-bend has been assumed (horizontal bar, boom or ladder) command, to hanglying—lower (raise), upon which the pupil grasps the apparatus from above and lowers his body to a hanglying position (the hands now have under grip) frontways and with a slight swing returns to the span-bend. This exercise is given after the span-bend can be taken with at least three foot-lengths distance. The apparatus is about head high. The exercise may be performed reversely.

The span-bend exercises should be repeated in the higher grades. Care must be observed in teaching the span-bend for a poor execution will produce harmful results.

THE ARCH STAND

Apparatus Employed— { (1) Stall bars
(2) Vertical gymnasium ladder.

1. The arch stand (side stride and fundamental stand). Fig. 2.

The pupils assume a stand rearways on a low round and grasp a round about head high with under grip, i. e., from below.

Command, to arch stand—lower, raise. The arms are straightened and the trunk bent backward by pushing the pelvis forward. A constant effort should be made to keep the abdomen drawn in.

Faults: Protruding abdomen, bent knees, head thrust forward.

2. In the arch stand—
   (a) Single, alternate and linked knee raising. Fig. 2.
   (b) Single and alternate leg raising.
   (c) Knee raising (1), straightening forward (2), leg lowering (3).
   (d) As c, but return on 3 and 4.

THE KNEE HANGS

THE HORIZONTAL BAR OR BOOM

I. The cross knee hang on the horizontal bar or boom (shoulder to head high).

1. The knee hang left. Fig. 5.

Jump and swing the left leg over the bar so that it hangs by the knee from its inner side.

2. *Strength and Determination Aim:* The double knee hang —— times on head high bar.

The legs are swung directly upward, one on each side of the bar and come to a hang on both knees with legs crossed above the bar.

In these positions repeat 1-8 under II, parallel bar, grades I-VI, p. 70.

3. Knee hang changing with intermediate jump.

The pupils jump to a stand from some knee hang and immediately into another indicated knee hang.

II. The side knee hang on horizontal bar.

The following knee hangs are usually assumed.

1. The outer knee hang left (right).
2. The inner knee hang left (right).
3. *Strength and Determination Aim:* The double knee hang (both knees between the arms) —— times on head high bar.

These positions are obtained from a jump with raising knees upward, turning over backward, and then placing the leg (or legs) into the indicated knee hang by squatting.

In this position execute appropriate exercises selected from 1-8 under II, parallel bar, p. 70.

Playform: The turnover backward from 2 and 3 on shoulder high bar.

THE FOOT HANGS

Parallel bar
Horizontal ladder } Shoulder to jump high.
Rings

Like the knee hangs these are also more difficult on the higher apparatus. For these hangs frontways the first and second named apparatus are the best; for rearways the first and third.

PARALLEL BAR

I. The cross foot hangs frontways.

1. The double foot hang frontways.

Command, to double foot hang frontways—jump (1); to a stand—jump (2). The pupils assume the cross stand with outer grip and on command, jump, with raising legs forward, placing the outer edge of the feet on the inner side and partly over each bar or beam. The body is entirely straight.

Faults: Sinking of chest, bending of hips, head thrust forward.

2. The foot hang left (right) frontways.

As 1, excepting that the body is suspended by one foot and the hands. The pendant leg is held in line with the trunk.

In these positions—

(a) Arm lowering (sideward and upward) and raising.

(b) Arm bending (elbows sideward).

(c) Alternate hand hopping.

(d) Alm: As b, then head turning.

3. Alternations of knee and foot hangs with intermediate jump. Let the pupils select.

Example: Knee hang left on left bar, intermediate jump, and double foot hang.

II. The foot hangs rearways (nest and hammock hang).

Playform: Turnover backward and forward.

1. The double hammock hang (or double foot hang rearways).

With slight alternations this is commanded as the double foot hang frontways. The pupils assume a cross stand rearways with outer grip at the parallel bar (or a stand between the rings). The body is turned over backward with raising knees (later legs) and the feet are placed on the bars, one on each (or on the ropes of the rings). *Variation:* Both feet may also be placed in one ring, in which case the hand is released, and grasps the other ring by reaching backward or is raised sideward. Upon returning the body turns about its length axis by releasing one hand and regrasping the other ring. From here as from the other hangs the body then turns over forward slowly with knees (or legs) raised forward to a hang or stand. The body should be kept rather straight avoiding by contraction of the abdominal muscles exaggerated bending of the lumbar spine. Fault: Over-bending of the lumbar spine, drooping of the head. On the rings (feet on ropes) the body is in a more vertical position and therefore does not fall into these faults so readily. The hammock hang is also obtained from a short swing on the jump-high rings, and can also be performed on the swinging rings. Care must be taken not to swing too high, and when returning to the hang.

2. The left (right) hammock hang on left bar (rope).

3. The left (right) hammock hang on right bar (rope).

In these positions:

(a) Head turning.

(b) Foot placing on and off and from one to the other bar.

(c) Arm lowering sideward and upward.

(d) Aim: Arm lowering with opposite foot lowering (from double hang).

4. *Skill and Perseverance Aim:* The nest hang on straps of the rings on one foot.

This hang resembles the previous one, but the feet are placed closely to the hands by thoroughly arching the body. The head must be kept erect. It may be given in the same form as the hammock hang but can well be omitted on account of the greatly increased curve produced by it in the lumbar spine and the pressure exerted upon the abdominal wall. On the rings the feet gradually move downward until placed on the straps and later in the rings. The nest hang on left foot and right hand with the opposite parts held in line with the body requires considerable skill and strength, and should be taught with proper assistance.

THE INVERTED HANGS

Parallel bar, Rings, Horizontal bar or boom } Shoulder, Head to jump high

They are taken frontways and rearways on the horizontal bar and boom. Rearways by squatting under the apparatus. They are obtained from:

1. A jump and turn-over (head high apparatus),
2. A short swing on the jump-high apparatus,
3. A straight hang by raising knees (or legs),
4. Arm bending, then short swing, or knee or leg raising and lead to

(a) The inverted squat (or crook) hang; i. e., knees and hips bent. (Fig. 6.)

(b) The inverted balance hang; i. e., hips bent, legs straight.

(c) The inverted hang; i. e., the entire body straight.

The exercises are taught as follows:

On the parallel bar, shoulder high, 1 a, b, and c.

On the rings, shoulder to head high, 1 a, b, and c.

On the horizontal bar, head to jump high, 1 and 2 a, b, frontways.

On the rings, jump high, 2 and 3 a, b, c; 4 a, b, c.

On the horizontal bar, jump high, 3 and 4 a, b, c, frontways and rearways.

On rings and parallel bar turnover backward and forward as playform.

These hangs may also be performed on the rings during the pendulum swing, but considerable care must here be exercised particularly when lowering from the swing.

5. *Skill and Perseverance Aim:* Rings, head high. Bend arms, raise knees and turnover backward to:

(a) Inverted balance hang.

(b) Inverted straight hang.

EXERCISES IN THE ACTIVE HANG

HORIZONTAL LADDER

I. Turns and half-turn traveling in the side hang.

1. The hang-turn left (right) forward and return (on bar or beam, upper grip).

This exercise consists of a half turn left about the left arm, regrasping right with upper grip (1) and then returning (2). It is first taken from a closed upper grip.

2. The hang turn left (right) backward and return (on bar or beam, under grip). A half turn left is executed about the right arm and then back again.

3. Aim: Alternate half turn-traveling forward (from side hang).

This is executed with two grips: (a) With upper grip on beam. (b) With inner grip on rounds. A half turn right about the right arm, the left hand regrasping with the same grip, is followed by a half turn left about the left arm, and the right hand regrasping with the same grip.

4. Aim: Alternate half turn-traveling backward.

This is also executed with two grips: (a) With under grip on beam. (b) With outer grip on rounds. A half turn left about the right arm, the left hand regrasping with the same grip, is followed by a half turn right about the left arm and the right hand regrasping with the same grip.

5. *Skill and Perseverance Aims:* Repeat 3 and 4 two ladder lengths.

II. Leg exercises in the side or cross hang.

1. Single, alternate, and double knee raising (1), straightening forward (sideward) (2), and leg lowering (3).

Strength and Determination Aim: With both knees —— times.

2. From 2 (squat or crook hang) both knees raised forward:

Single, alternate, linked, and double leg straightening forward and return.

The knees are to be raised as a starting position and then leg straightening practiced from this position in the indicated manner a number of times before lowering the knees.

3. *Strength and Determination Aim:* Double leg raising forward to balance hang —— times.

The perfectly extended legs are raised forward (1) and again slowly lowered. Other leg exercises may be executed in the balance hang if the pupils acquire the strength to hold this position easily.

III. The short swing with upper, mixed and outer grip.

1. Preparatory: Single and alternate leg-swing forward and backward.

Command, left (right) leg forward and backward—swing. Halt.

The thoroughly extended leg is swung from the hip about waist high. The other leg remains as still as possible. Alternate leg-swing is executed:

(a) Each leg a definite number of times, as 4 or 8 times.

(b) Left and right in alternation.

2. The fore-backward short swing hip high.

3. *Strength and Determination Aim:* The fore-backward short swing shoulder (head) high —— times.

These exercises might be termed "the double leg swing," as it consists of swinging both legs to the signified height. The jump-off is made:

(a) After coming to the still hang. (b) With the backward swing. (c) With the forward swing.

The kind of jump-off should be indicated when naming the exercise.

4. The side short swing.

This exercise is considerably limited in its movements, which chiefly take place in the waist. The upper part of the body moves in the opposite direction to the swing of the legs. If the upper part moves to the same side it will lead to the side long swing.

IV. The long swing on fixed and movable surfaces.

1. The side long swing.

To start the side long swing, both legs are slowly raised to one side and the arm of the same side slightly bends, pulling the entire body over to that side. After it swings back by its own weight the swing to the opposite side is encouraged by bending the arm and swinging the legs.

2. The fore-backward long swing (on a fixed surface).

The swing is started by rapidly raising the legs forward, then swinging them backward and keeping the hips thoroughly extended, the body arched. This starts a slight backward and forward swing which is then increased by slight raising forward of the legs with each forward swing. The jump-off occurs as the forward swing begins, and not as the backward swing ends. Incorrect jump-off may cause a fall, care should therefore be taken to insist upon proper execution. Assistance is given by standing at the side of the swinger and grasping his wrist or fore-arm. It can also be executed on the rings in which case the body swings from the shoulder joint.

V. Traveling and turn-traveling with the side long swing.

1. Traveling sideward left (r) with the side swing.

When the body is approaching the end of its sideward

movement so that the hand on that particular side is entirely relieved of its weight the hand moves in the indicated direction. Common fault: To grasp too soon and out of rhythm with the swing.

It is performed in the side hang with:

(a) Upper grip on beam (inner and outer surface).
(b) Outer grip on rounds
(c) Inner grip on rounds
(d) Mixed grip on rounds

} in open and span hang, i. e. with a number of rounds between the hands.

2. Aim: Traveling forward (backward) with the side swing, (cross hang on ladder).

3. *Skill and Perseverance Aim:* Half turn-traveling with the side swing —— lengths.

(a) Alternate half turn-traveling forward with the side swing.

From inner grip on rounds, turn right about the right arm (releasing and regrasping left inner grip) after the body has completed the side swing right; then the reverse, regrasping inner grip with right hand. On the beams always grasp upper grip.

(b) Alternate half turn-traveling backward with the side swing.

From an outer grip on rounds, turn left about the right arm (releasing and regrasping left outer grip) after the body has completed the side swing right; then the reverse, regrasping outer grip with right hand. On the beams always grasp with under grip.

The regrasping hand swings downward past the body before regrasping in both half turn-travelings.

"Traveling with the fore-backward shortswing" is here suggested although it may be omitted in apparatus work for women. It is performed forward, backward, and sideward.

VI. Hand hopping with leg positions.

In the following exercises the hang with various grips is assumed and then the indicated position of the legs. These

may be, however, combined. After sufficient strength has been acquired so that the leg positions can be easily held, the hand hopping exercises may then be performed. The jump-off to a stand is preceded by lowering the legs into the correct hang.

Command, to the hang, upper grip—jump, one, two, three. Knees forward—raise. Alternate hand hopping in place (eight counts)—begin. Knees lower. Jump, one, two, three. Or, to an upper grip hang with knees raised forward —jump, one, two, three, four, (knees raised on four) ; then as before. Faults: Tendency toward passive hang; interrupted breathing.

1. Alternate hand hopping in place.
2. Alternate hand hopping inward and outward (left 1—2, 3—4.)
3. Alternate hand hopping to close and open grip (left—1, right—2, return —3—4).
4. Alternate hand hopping to span and open grip. On horizontal ladder only (cross hang, outer grip).
5. Hand hopping left (right and alternate) forward and backward.
6. *Endurance and Tenacity Aim:* Hand hopping left (right and alternate) to round (upper grip) and beam —— times with knees touching a rope.
7. Alternate double handhop, forward, backward, outer grip, sideward left (right), upper grip.

} in the {

Single, double squat (or crook)

Single balance

Side straddle

Left (right) forward straddle

} hang.

These exercises (1—7) are likewise performed at the "end of the forward short swing." When the feet swing forward the one hand hops and on the next forward swing the other hand.

Command, short swing fore-backward with etc., (1—7). (Appropriate exercises may also be selected to be executed at the end of the backward long swing on the horizontal bar).

VII. Traveling (or hand walking) with leg positions, on horizontal and oblique surfaces.

1. Traveling (or hand walking) forward and backward with	outer grip on beams	Single, double squat (or crook)	hang.
	outer grip on beam and upper on round		
	upper grip on round with follow grasp.		
2. Traveling (or hand walking) sideward left (right) with	upper grip on beam (outside and inside)	Single balance	
	grip on beam and round inner grip on round		
	outer grip on round (also mixed).	Side straddle	
3. The hang-turn left (right) forward and return (on bar or beam), upper grip.			
4. The hang turn left (right) backward and return (on bar or beam, under grip). A half turn is executed about the right arm and then back again.		Left (r) forward straddle	

5. *Endurance and Tenacity Aim:* Grip on beam, travel —— lengths with knees raised forward.

6. *Endurance and Tenacity Aim:* As 5, on oblique ladder (45°) upward and downward ——times.

Forward and backward traveling with leg positions proceeds from the horizontal to the oblique surfaces.

Note: *All the exercises under* VII, (1 and 2), *are repeated traveling upward and downward on the oblique ladder, preceded, however, by traveling upward and downward without leg positions and in the hang frontways and rearways with the side swing.*

RINGS (ROPES)

VIII. Half-turns in the pendulum swing.

The turns are easiest developed on the single rope or ring and are performed in the center, at end of forward, and at end of backward swing.

1. Continuous half turns left (right) in center of forward pendulum swing with two steps touch-off.

This will require a touch-off right and left, with the last touch-off (left) the right leg should be forcibly swung forward to assist in the turn. It is first to be taken with but a slight swing which may be increased with repetition. After the turn the body continues its swing in the same direction so that its back is turned in the direction of the first pendulum swing. This is continued, turning to the same side. In the execution right the touch-off is reversed.

2. Alternate half turns, left and right in the center, of the forward pendulum swing with two steps touch-off.

The feet touch off right and left in one, and left and right in the next forward swing. It may be simplified by turning every second forward swing.

3. Continuous half turns left (right) in the center of the backward pendulum swing.

This is also to be taught as suggested under (1), at first from a slight swing. The touch-off is, however, reversed, being left and right for the turn left and vice versa for the turn right.

4. Alternate half turns left and right in the center of the backward pendulum swing. These may also be simplified by turning every second backward swing.

5. Continuous half turns left (right) at end of forward pendulum swing.

Preparatory:

¼ turn left (right) at end of forward swing.

The execution is similar to 1 but the turn is made at the end of the swing by a sudden jerk. From a two steps, three steps, or double touch-off.

6. *Skill and Perseverance Aim:* Alternate half turns at end of forward pendulum swing —— times. Simplified by turning every second forward swing.

7. As 5, but at end of backward pendulum swing.

8. *Skill and Perseverance Aim:* As 6, but at end of backward pendulum swing.

IX. Leg movements and positions in the pendulum swing. Both movements are executed: At the end of the forward pendulum swing; at the end of the backward pendulum swing.

Not all of these exercises are appropriate, the unsuitable must therefore be omitted. They are varied by performing a different exercise at the end of the forward, then at the end of the backward swing. Let the pupils select their own exercises occasionally.

Command, four forward pendulum swings with three steps touch-off and double knee swing forward at the end.

The leg positions are maintained during: The backward pendulum swing; the forward pendulum swing.

1. Single, alternate, linked, and double knee swing forward.
2. Leg straddling sideward and closing.
3. Rapid leg straddling and closing.
4. Single, alternate, and linked leg swing forward (balance hang).
5. Leg straddling left (right and alternate) forward and closing.
6. Rapid leg straddling left (right and alternate) forward and closing.
7. Double leg swing forward to balance hang.

} at end of { forward / backward } { pendulum swing

In some of these positions it will be necessary to raise the legs somewhat forward to prevent touching the floor; e. g., when one leg is only raised to a position or when both are raised sideward during the pendulum swing.

Command, four backward (also sideward) pendulum swings with two steps touch-off and knees raised forward during the backward swing.

8. Single, double (Aim), squat (or crook)
9. Single balance.
10. Side straddle
11. Left (right) forward straddle.

hang during { forward / backward } pendulum swing

12. *Skill and Perseverance Aim:* Hold the inverted balance hang during —— pendulum swings. Swing into the balance hang at end of forward swing. Lower slowly and carefully by bending the arms.

The number of pendulum swings may be omitted in the command if the teacher commands "halt" after a desired number have been performed. Let the pupils select.

Faults: Tending to let chest sink between shoulders; not straightening the body thoroughly after lowering the legs.

X. The circle-swing of the legs.

After jumping to a hang (or grasping reach high rings) the feet begin the circle-swing (left or right) by describing a small circle and gradually increasing it until they swing in a horizontal plane anywhere from knee to hip high (Aim).

Skill and Perseverance Aim: Circle swing of the legs —— times.

Playforms:

(a) Two pupils performing on one pair of rings hanging back to back or beside each other (arms crossed) after the exercise has been previously thoroughly learned.

(b) Performed, with rings close enough together to admit of pupils using the space between two pairs of rings (three pupils on two pairs, five on three pairs of rings, etc.), as under (a).

SUSPENSION ACTIVITIES PECULIAR TO CERTAIN APPARATUS

SINGLE AND DOUBLE POLES OR ROPES

I. Climbing and climb-traveling.

Review climbing upward and downward with follow- and over-grasp. Also as *Endurance* (—— feet) and *Speed* (—— feet in —— seconds) *Aims.*

1. Climbing with double or simultaneous grasp.

Both hands move upward together.

2. *Endurance and Tenacity Aim:* Horizontal climb-traveling on —— poles.

This consists of three movements: (1) Grasping the next pole with the nearest hand; (2) following with the legs, and (3) then with the other hand. Continue until the end pole has been reached. It is performed left and right sideward. As a *"Speed Aim"* in —— seconds.

3. *Endurance and Tenacity Aim:* Climb-traveling upward on —— poles.

This is executed as 2, but the hand grasps as high as possible on the next pole (1), and the knees are raised as close to this hand as possible when changing climbing position (2). Climb downward when the end pole has been reached. Climb-traveling downward can be executed after previously climbing upward on one pole. It may also be performed as a *"Speed Aim;"* i. e., in —— seconds.

When used as an aim the top of the pole should be reached as the last pole is grasped. Coming down is not part of the test.

4. Turn climbing left.

Performed with continuous turning left (or right) while climbing upward and downward with any grasp.

THE SEE-SAW (WHIPPLE OR SWINGING LADDER)

II. Swinging with leg and trunk exercises and arm bending and straightening in the squat stand.

The knee bending and arm bending must flow into each other so that there will be no jerk. Practice thoroughly before taking up the following:

1. Repeat 1—6 under VIII on p. 84, grades I to VI.
2. Linked and double knee raising.
3. Aim: Linked and double leg raising.
4. Alternate leg crossing. The left and right leg cross alternately in front from side straddling.
5. Alternate leg straddling forward.
6. Single and alternate trunk turning.

THE CIRCLE SWING (GIANT STRIDE)

III. Exercises in the forward and backward direction from the flank formation.

1. Facing about during the forward movement from the flank formation. Repeat IX, 1—5, grades I-VI, p. 85, with facing about (toward center) in a number of steps appropriate to the speed and kind of movement (usually in 4—8 steps) with grip changing. Change (1) on command; (2) after a definite number of steps.

2. Exercises in the backward direction from the flank formation. Repeat IX, 1—5, p. 85, with appropriate grips given under 1—8, p. 85.

IV. Changing in front formation from left to right direction.

(a) Repeat X, 1—6, p. 86, changing to right:
  (1) On command.
  (2) After a definite number of steps.

V. Alternations involving changes from flank to front formation (quarter turns) and vice versa, i. e., changing from one direction to an unlike direction without changing the direction of circling. When changing from flank to front formation the inner hand gives up its grip and takes upper grip on the round grasped by the outer hand. With the lowering of the hand the sideward movement must be at once begun. When changing from front to flank formation the outer hand (to be) grasps a lower round with under grip.

Alternations are performed: Upon command; after a definite number of counts.

1. Running forward and left (right) sideward with closing steps, front and rear cross-steps.

Maintain the same rhythm throughout.

2. Galloping forward, left, and right and galloping left (right) sideward.

3. Galloping forward, left, and right and running left (right) sideward with closing step, front and rear cross-steps.

4. Galloping forward, left and right and skip-step left (right) sideward with front and rear cross-step.

5. Skip-step forward and skip-step left (right) sideward with front and rear cross-steps.

6. Skip-step forward and galloping left (right) sideward.

Repeat 1-6, beginning with the sideward movement.

Command, four gallops left and four right forward, face right and eight running steps left sideward, crossing in rear.

7. Alternate exercises in the backward direction from the flank formation, with a sideward movement.

8. Repeat 7, beginning with the sideward movement.

SUPPORT

PARALLEL BAR

I. Seats, seat changing by intermediate jump; swinging in support.

The apparatus should be gradually raised higher.

1. The inner cross-seat in rear of hands (p. 40).

The exercises begin from an inner cross stand. The hand behind which the seat is to be taken grasps some distance beyond the other hand. When the seats are alternated behind left and right hand, the hands must quickly change their positions. The forward arm behind which the seat is taken is straight, the other slightly bent. Later they are performed with the hands directly opposite each other. The exercises begin as those of "jumping into support"; i. e., with heel raising, knee bending, and then jumping. The dismount is the reverse of this.

(a) Jump to inner cross seat rear of left (right) hand several times.

(b) As (a) with intermediate jump (the hands retain their grip).

(c) As (b) alternately rear of left and right hand.

(d) As (b), moving forward with each jump (through the bar).

(e) *Simple Skill Aim:* As (c), moving forward with each jump through the bar.

(f) As (c), without intermediate jump; i. e., from seat to seat.

(g) *Simple Skill Aim:* As (f), with moving forward through bar.

(h) As (a) and (b), moving backward with each jump. The exercise begins from a cross stand rearways. The hands grasp backward before each intermediate jump.

(i) *Simple Skill Aim:* As (f), with moving backward through bar. The hands grasp backward before each change of seat.

2. The inner cross seat in front of hands. The inner oblique seat (p. 40).

(a) Jump to inner cross seat in front of left (right) hand, several times.

(b) As (a), with intermediate jump (the hands retain their grip).

(c) As (b), alternately front of left and right hand.

(d) As (b), moving forward with each jump. The hands grasp forward before each intermediate jump (through the bar).

(e) *Simple Skill Aim:* As (c), moving forward with each jump (through the bar).

(f) As (c), without intermediate jump (i. e., from seat to seat).

(g) *Simple Skill Aim:* As (f), with moving forward through bar. The hands grasp forward before each change of seat.

(h) Repeat a-g, substituting the inner oblique seat.

3. The inner cross seat in rear and front of hand.
   (a) Inner cross seat in rear of left (right) hand and intermediate jump to seat in front of left (right) hand. Also three changes. Reverse the exercise.
   (b) As (a), but intermediate jump to seat in front of opposite hand.
   (c) Inner cross seat rear of left, of right, front of left hand with intermediate jumps.
   (d) Inner cross seat front of left, rear of right, rear of left hand, with intermediate jumps.
   (e) As a-d, without intermediate jumps. Let the pupils select. *Simple Skill Aim:* As d, no intermediate jumps.
   (f) Other changing of seats, using the inner oblique seats in place of the cross seat in front.

4. Swinging in the support.

Preparatory exercises.

   (a) Jump to momentary support.
   (b) As (a) with:
      (1) Single, alternate, and double knee swing forward.
      (2) Single, alternate, and double leg swinging forward.

These exercises start from a cross stand frontways about arm's length distance from the apparatus. They are performed in three counts with the ordinary jump to support. Likewise the jump-off. The body comes to support slightly swaying forward and immediately returns to the stand with its backward swing. These exercises must not be attempted until sufficient strength to maintain the body in a correct support position has been acquired.

Common faults: Head and chest sinking between the shoulders; knees bent and legs apart.

The following exercises may precede the above if it is found necessary to increase the strength

required to maintain the body in the correct support. Jump to support (no swinging), from a stand between the hands. In the support, raise and lower knees and legs, singly and alternately.

Swinging exercises (for strong pupils and for higher grades).

(c) As a, with double leg-swing forward to the horizontal and backward to a stand. Permit the body to swing backward, completing the fore-backward body-swing before alighting.

(d) Jump to support and —— fore-backward swings, forward to the horizontal.

(e) *Skill and Strength Aim:* As d, feet bar high on the backward swing.

(f) c-e, with quarter turns to a stand at either end of the swing.

(g) Alternations with support lying and exercises in it. Let pupils select.

(See "Support lying," page 100.)

The height of the swing is gradually increased. The instructor must be exceedingly careful (assistance) if the backward swing is attempted higher than the bar. It need at no time go beyond the horizontal. This should only be tried by very capable pupils and in higher grades. To the preliminary exercises the jump-offs with a quarter turn may be added, before attempting the higher swings in the support. The support-swings lead to the support lying exercises and may be alternated with these as suggested under g.

Skill and Perseverance Aim: Rear vault from cross stand over —— high bar.

II. Seat changing by swinging.

1. Alternations of inner seats by swinging.

(a) Jump to support, swing (indicate the number, as, fore backward, or twice, etc.) into inner cross or oblique seat rear or front of left or right hand. Swing backward (or jump) to a stand.

(b) Jump to inner cross or oblique seat rear of hand—Intermediate swing to inner cross or oblique seat rear of opposite, front of opposite, front of same hand.

(c) As b, but start from inner cross or oblique seat front of hand.

(d) Other variations like the above by

(1) Increasing the number of seats assumed.

(2) Increasing the number of intermediate swings.

(3) Adding quarter turns to the jump-off from the swings.

(4) Adding single leg-swing over same or opposite bar in front of hands and alternating seats with these.

(5) Alternations with support-lying.

It is not advisable, however, to arrange long sequences for girls' and women's classes. The intervals between turns would thereby become rather long, cause disorder, and take the life out of the lesson. It is furthermore to be borne in mind that the duration of an exercise and the effort required should be carefully adapted to the ability of the class. Let pupils select their own exercises occasionally.

(e) *Simple Skill Aim:* Change from inner oblique seat front of left to front of right hand by intermediate swing.

2. Alternations of outer and inner seats by swinging.

(a) Support swing (indicate the number as fore-backward or twice, etc.), into outer cross (Fig. 3) or oblique seat in front of left or right hand. Swing backward (or jump off) to a stand.

(b) As a, to the seat on first swing, then intermediate swing to

$$\text{inner} \left\{ \begin{matrix} \text{cross} \\ \text{oblique} \end{matrix} \right\} \text{seat} \left\{ \begin{matrix} \text{front} \\ \text{rear} \end{matrix} \right\} \left\{ \begin{matrix} \text{of same} \\ \text{opposite} \end{matrix} \right\} \text{hand.}$$

(c) As b, but begin from

inner { cross / oblique } seat { front / rear } of hand and change to

outer { cross / oblique } seat front of { same / opposite } hand.

(d) As d, under 1.

(e) *Simple Skill Aim:* From a side-stand frontways, jump with a quarter turn into outer cross (or oblique, eighth turn) seat, intermediate swing to an outer oblique (or cross) seat front of other hand; dismount.

Also review a, b and c.

JUMPING, MOUNTS, DISMOUNTS AND VAULTS

In teaching vaults over apparatus, repeat them frequently at first with pupils following each other in rapid succession to acquire strength. Then repeat the vaults with placing emphasis upon form and control, allowing the pupils more time for the execution. This is to be applied to all vaults throughout the book.

THE LONG JUMPING ROPE (PLAYFORMS)

I. Springing in the rope with catching and throwing.

Jumping and hopping in the rope and catching a ball or beanbag thrown from without and returning it, or throwing and catching executed by one in the rope, or by two who are playing together.

Skill and Perseverance Aim: With tossing up basket ball and catching it —— times; also with bouncing it —— times.

II. Springing in the rope from place.

Jumping and hopping forw., sidew., or backw. in the rope which is moving from place.

Various forms of springing with arm exercises.

III. Springing in two ropes.

1. Exercises in two ropes which are swung in opp. direction.

(a) Jumping over first and running under second.

(b) Jumping over second and running under first.
For forms of broad and high jump see Track and Field Activities.

2. *Skill and Perseverance Aim:* Jumping into two ropes swung into each other (double Dutch) —— times.

SIDE HORSE, LONG HORSE, BUCK, GRADUALLY RAISED

IV. The free support exercises preparatory for vaulting. Their value as preparatory exercises for vaulting lies in acquiring the double take-off with simultaneous support on the apparatus. The ability to measure the length of the run, to judge the take-off and the strength required to carry the body over the apparatus, to calculate the correct moment when to translate the run into the take-off, combining it with the supporting activity of the arms, to be accurate in grasping the apparatus and to terminate the vault in good form, make vaulting an extremely difficult exercise of co-ordination. It is, therefore, necessary to practice many forms of preliminary exercises in girls' and women's classes, all of which will tend to develop these qualities. The use of the spring-board when learning to vault is quite justified inasmuch as it assists beginners in striking the correct take-off place. When this has been learned and some ability in vaulting acquired it should no longer be used. As ability in vaulting is acquired and the apparatus gradually raised the spring beat board should be made use of. This lends interest anew to vaulting and demands considerable courage and skill. Care must be taken when at first using it. The other apparatus suggested may be used occasionally as a variation.

1. From a running start and double take-off jump to a free support.

The thoroughly extended body rises backward, the arms being vertical above the apparatus, with head high, chest well arched, legs together and perfectly straight. Alight in the squat-stand on the spring-board, retaining the grip, straighten knees, and lower heels and hands.

2. As 1, with single and double knee swing forward.

3. As 1, with single leg swing sideward and straddling legs.

4. As 1, with single leg swing forward inward.
5. As 1, jump-off with quarter turns.

V. Knee-mount exercises preparatory for vaulting.

The exercises suggested are not possible on all the apparatus named and will, therefore, have to be adapted to the apparatus. They are described for execution on the side horse, which, with its pommels for gripping, offers the best possibilities. The double take-off is used when taking a running start. The exercises are also practiced from a stand frontways with outer grip on pommels, and as such may precede the previous exercises of the free support.

1. Knee-mount left on { Saddle / Croup / Neck }

The jump-off is executed in the three following ways:

(a) Jump-off backward to a stand (in three counts).
(b) Jump-off forward with retaining the grip of one hand and a quarter turn to the same side.
(c) Rise to a stand and jump-off forward, sideward, or backward without and with turns.

The pendant leg is kept perfectly straight and directed downward. The back is straight, head up, and chest arched. The grip is retained in all knee-mounts. The spring-board is placed in front of the part of the horse to be jumped upon.

2. Double knee-mount on { Saddle / Croup / Neck } Jump-off as under 1.

The spring-board is placed in front of the respective parts of the horse.

3. As 1 and 2, with spring-board in front of saddle only. The grip on the pommels is retained. Jump-off as under 1.

4. Jump to support and change to single and double knee-mount on saddle and return to support or jump-off as under 1.

5. Knee-mount left { Saddle / Croup / Neck } Grip on pommels. Change to knee-mount right.

The left leg is straightened downward while the right knee is placed on the apparatus.

6. Alternations of single and double knee-mounts, with (one or more) intermediate jumps, e. g.

(a) Knee-mount left, intermediate jump, and right or double knee-mount.

(b) *Simple Skill Aim:* Double knee-mount, intermediate jump; knee-mount left; intermediate jump and double knee-mount in saddle.

(c) As the previous exercises, changing to a different part of the apparatus after the intermediate jump. Allow the pupils to select.

7. Single knee-mounts, with positions and exercises of the pendant leg, e. g.

(a) With leg raised backward.

(b) With foot placed on apparatus.

(c) With leg raised sideward.

(d) With leg-swing forward under left or right hand.

These exercises may be alternated with the preceding ones; also with themselves with an intermediate jump. They may also be performed after the knee-mount as exercises, rather than assumed with the knee-mount as positions.

VI. The knee or courage jump.

The same apparatus as employed for the knee-mount.

1. The knee-jump forward with assistance.

The knee-jump is taken from the knee-stand, thighs, trunk and head in a line, arms at side and slightly backward. The knee-stand should previously be taught both as single and double. The knee-jump is taught with the assistant standing on the far side of the horse, close to it, so the jumper can get a point of support by placing his hands upon those of the assistant, palm to palm, and stepping backward as the knee-jump is performed. The assistance is given

(a) With both hands.

(b) The assistant's right supporting the jumper's right, the assistant stands at right side of the jumper.

(c) As b, with left hand.

After a few repetitions in this manner the pupil usually is courageous enough to attempt it alone. The arms should be swung vigorously fore-upward and then side-downward.

2. The knee-jump (courage jump) forward.

3. The knee-jump forward with quarter turns.

4. *Courage Aim:* The knee-jump forward with half turns from —— high horse.

5. The knee-jump forward from one knee (single) with
   (a) The pendant leg in front.
   (b) The pendant leg in rear of the horse.

6. The knee-jump sideward. The arms are swung toward the side of the jump.

7. Knee-mount exercises (V), followed by the knee-jump. The pupil may select.

VII. Squat-mount exercises preparatory for vaulting.

It is advisable to always have a pupil stand on the far side ready to assist in all squatting exercises. There is a possibility of those exercising to turn over forward.

1. Single and double squat-mount in saddle from:
   (a) A running start and double take-off.
   (b) A stand frontways.
   (c) Support frontways.

Jump-off backward or forward without and with turns to a stand.

Jump-off backward, forward, or sideward, with turns after straightening to a stand on the apparatus.

2. Aim: Alternations of single with the single and double squat-mount with (one or more) intermediate jumps. Jump-off as under 1.

3. As 2, but changing to support in place of intermediate jumps. Jump-offs as under 1.

4. Alternations of knee-mount and squat-mount as under 2 and 3. Jump-offs as under 1.

Let the pupils select the exercises.

VIII. The squat-mount with grip on pommels.

Boom with pommels may also be used.

Preparatory: The squat-mount exercises.

1. Squat left forward, leg-swing dismount (forward or backward).

2. *Simple Skill Aim:* Squat both forward into side seat or support rearways on —— high horse; jump-off forward.

3. *Courage Aim:* Squat-vault forward (page 47), with straightening legs forward into stand rearways over —— high horse.

IX. The front vault left.

These exercises are preceded by the front vault over long horse from an oblique run. (See long horse.) From a side stand frontways with and without running start. Preparatory:

1. The front vault mount left, grip on left end and left pommel, into riding seat.

2. The front vault left into cross stand.

3. The front vault mount left, grip on pommels, into riding seat in saddle.

4. As 3, but into support lying position frontways.

5. *Courage Aim:* The front vault left, grip on pommels, into cross stand over —— high horse. (Page 48.) The apparatus must be cleared.

X. The flank vault left. (Fig. 15.)

With and without a running start from a side stand frontways.

Preparatory:

1. Flank vault left, grip on left end and left pommel, into side seat.

2. The same into side stand rearways.

3. Flank vault left, grip on pommels, into support lying sideways.

4. *Courage Aim:* Flank vault left, grip on pommels, into side stand over —— high horse. (Page 49.) The apparatus must be cleared.

LONG HORSE

XI. The front vault from an oblique run.

The exercises on the long horse leading to the front vault are performed from an oblique run on a line forming about a 45° angle with the length axis of the horse. There are no pommels on the horse. A double take-off is used and occurs about opposite the middle of the horse, while both hands are placed on the neck (far end).

Preparatory:

1. Front vault mount left into riding cross seat.

2. Front vault left into support lying position frontways. Front vault dismount may be used for 1 and 2.

3. *Courage Aim:* The front vault left into cross stand over —— high horse.

XII. The fencer's rear vault (left).

The buck may also be used for this exercise.

Preparatory: Fencer's rear vault mount left into:

1. The riding (or stride) cross seat (p. 41).

2. The oblique seat on far side.

An appropriate dismount may be selected from those previously given.

3. *Courage Aim:* Fencer's rear vault left into a cross stand over —— high horse.

Progression by raising the apparatus.

EXERCISES ON THE BALANCE BOARDS

I. Forms of walking and dance steps from the cross-stand and side-stand at end of board.

1. Balance-walk backward with exercises under I, grades I to VI, p. 89.

2. The step-hop, glide-hop, skip-step, and running forward.

3. Balance-walk forward and sideward and one-fourth turn sideward, forward and backward respectively.

II. Dance steps with prefixed leg exercises.

Two-movement leg exercise (as given under III, 1-4, grades I to VI, p. 90), as prefixed exercises to the dance steps:

1. A follow-step.
2. A change-step.
3. A step or glide-hop.
4. A polka-hop.
5. A balance hop or glide balance hop.
6. A rocking-step straight forward.
7. A swing-hop.
8. Two skip-steps.

These steps may first be practiced singly.

III. Balance walk on the inclined board.

Place one end of the board on a bench or round of a ladder, leaving the other end on the floor, and practice balance walk forward, sideward with closing-step and cross-step and backward up and down the board.

Aim Chart for Grades VII-IX

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Skill and Perseverance	Hanglying circling....times	Rgs. hd. high.	97	
	Nest hang on one foot on ropes or rings	Rgs. hd. high.	108	
	Inverted balance and inverted straight hang (slow)	Rgs. hd. high.	109	
	Alternating half turns at end of forward pendulum swing ....times	Rgs. hd. high.	116	
	Alternating half turns at end of backward pendulum swing ....times	Rgs. hd. high.	116	
	Inverted balance hang during....pendulum swings	Rgs. hd. high.	117	
	Circle swing of legs ...times	Rgs. hd. high.	117	
	Alternating half turns traveling forward two lengths; (beam)	Hor. ladder.	110	
	Alternating half turns traveling backward two lengths beam and round	Hor. ladder.	110	
	Alternating half turns traveling forward, rounds, side swing ....lengths	Hor. ladder.	112	
	Alternating half turn traveling backward, rounds, side swing ....lengths	Hor. ladder.	112	
	Jump in rope; catch basketball....times	Long jp. rope.	125	
	Jump in rope; bounce basketball....times	Long jp. rope.	125	
	Jump in two ropes....times (Double Dutch)	Long jp. rope.	126	
	Squat to support, rearways on....high horse	Side horse.	130	
	Rear vault from cross stand thru....high parallel	Par. bar.	123	
	Pendulum vault over....high cross bar	Two ropes.	146	

Aim Chart for Grades VII-IX—Continued

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Simple Skill	Support lying, raise opposite leg and arm, hold....seconds.	Par. bar.	98	
	Change inner rear cross seat forward thru bar	Par. bar.	121	
	Same with intermediate jump	Par. bar.	121	
	Same but backward (no intermediate jump)	Par. bar.	121	
	Same but front cross seat forward thru bar	Par. bar.	121	
	Same but with intermediate jump	Par. bar.	122	
	Change from front to rear to front to rear	Par. bar.	122	
	Three support swings to horizontal	Par. bar.	123	
	Inner oblique front of left to front of right by swinging	Par. bar.	124	
	Side stand, jump to outer cross seat; intermediate swing to outer oblique seat	Par. bar.	126	
	With intermediate jump. Double, left and double knee mount in saddle....high	Side horse.	128	
Strength and Determination	Arm bending....times; hanglying (knee high)	Bar or ladder.	96	
	Arm bending....times; support lying	Bal. board.	98	
	Double grip changing....times; support lying	Bal. board.	98	
	Double knee and hip raising....times	Hor. board ladder.	101	
	Double leg and hip raising....times	Board ladder.	101	
	Trunk raising, arms upward....times	Hor. board ladder.	103	
	Double knee hang....times	Bar or ladder.	106	
	Double knee raising; straighten leg (touch), lower....times.	Bar or ladder.	110	
	Double leg raising (touch rope)....times	Bar or ladder.	110	
	Short swing, shoulder high (touch)....times	Rings, bar.	111	

Courage and Skill	Knee jump w. half turn from....high horse	Side horse.	129	
	Squat vault (straightening legs)....high horse	Side horse.	130	
	Front vault over....high horse	Side horse.	130	
	Flank vault over....high horse	Side horse.	130	
	Front vault; oblique run, over....high horse	Long horse.	131	
	Fencers rear vault over....high horse	Long horse.	131	
Endurance and Tenacity	Hanglying: Bend arm, then head turning left and right....	Bar or ladder.	95	
	Hanglying: Bend arm, then alternating, grip changing ....times	Bar or ladder.	96	
	Lying, bend upper trunk, then arm swimming....times	Obl. board ladder.	99	
	Squat hang (knee touching): Alternate hand, hopping from beam to rounds....times	Hor. ladder.	113	
	Squat hang: Travel forward....lengths	Hor. ladder.	114	
	Same on oblique ladder (45°)....times up and down	Obl. ladder.	114	
	Climbing overgrasp....feet	Poles, ropes.	83	
	Horizontal climb, traveling on....poles	Poles, ropes.	118	
	Climb traveling upward on....poles	Poles, ropes.	118	
Speed and Determination	Climb....feet in....seconds	Poles, ropes.	83	
	Horizontal climb, traveling on....poles in....seconds	Poles, ropes.	118	
	Climb, traveling upward on....poles in....seconds	Poles, ropes.	118	

GRADES X-XII

THE SUPPORT LYING POSITION AND EXERCISES IN IT

HORIZONTAL LADDER (BAR)

I. Side support lying frontways, arms oblique, upper (over) grip.

The ladder or bar is knee high or lower. The position is taken by stepping backward three or four steps until the arms form about a 45° angle to the vertical, or pass slightly beyond this, and then bringing the feet together resting on the toes. The position is more difficult to maintain as the arms gradually pass from the vertical to the oblique or beyond it toward the horizontal. If the obliquity of the arm is not too great most of the exercises given in support lying in grades VII-IX may be repeated, but the possibilities become more and more limited as the arms approach the 45° angle and pass beyond it. In its most difficult form, which, however, is beyond the ability of women in general, it may be taken with support on a balance beam and gradual stepping backward until the feet rest against another fixed beam.

STALL BARS AND VERTICAL LADDERS

II. The horizontal support lying position frontways.

Command, support lying frontways—one—two. Feet on board (or round)—place—three—four. On one, bend knees deep and place hands on the floor directed forward inward. Two, jump backward to support lying frontways. On three and four place one and then the other foot on the indicated apparatus. The balance board, stall bars, benches, ladder, or low horizontal bar may be used.

Counter command, return to stand—one, two, three, four. The apparatus should be placed high enough to bring the body into a horizontal position.

In this position—

1. Alternate head turning.
2. Single and alternate knee raising.
3. Single and alternate leg raising backward.

4. Single and alternate arm raising upward.

5. *Strength and Determination Aim:* Arm bending and straightening ——times.

6. Alternate hand hopping in place.

7. Traveling and walking (on benches and balance board) sideward left (r).

Beginning left the hands hop alternately toward the left side; the feet do the same, moving simultaneously with the same hand.

Instead of placing feet upon an apparatus which brings the body horizontal they may be placed higher and raise the body into the *inverted support lying position frontways*, in which *exercises* 1, 5, and 6 of II may be repeated. This position is preferably performed entirely on the apparatus.

FIG. 18

Axes relation: both a cross position. Surface relation: top, rearways; bottom, frontways. Position: both, supportlying, upper grip on rounds. Term: top, cross supportlying rearways, feet on board, upper grip on rounds; bottom, cross supportlying frontways, feet on board, upper grip on rounds.

III. Support lying on horizontal and oblique ladder and parallel bar.

Repeat exercises previously executed in this position.

The horizontal ladder should be placed as low as possible so that it may be easily mounted.

If the ladder is a regular gymnasium ladder with a running board in the center the feet are placed upon the board; if not they can be placed on the beams.

On the oblique ladder the position is obtained by *ascending into support lying*

frontways. Two pupils may mount the ladder in succession, one above the other. The position increases in difficulty as the ladder is raised from the horizontal toward the oblique (about a 45° angle). In this position the strain falls chiefly upon the muscles of the arm and those leading from the arms to the trunk. (Fig. 18.)

Grip is taken on rounds. The exercises are given on the horizontal ladder as a variation.

On the parallel bar the cross support lying position is obtained from swinging in the free support. The feet are placed with their inner edge upon the bars.

Strength and Determination Aim: Bend and straighten arm —— times.

The side support lying position is obtained from an outer oblique seat from which a turn about the length axis is executed to the indicated position. The hands grasp the far bar and the legs rest above the knee on the near bar. The outer oblique seat is obtained from a jump with ⅛ turn from the outer side stand or from support swinging. The side support lying may also be obtained from a jump from the side stand with or without a running start and double take-off directly into the position.

EXERCISES IN SITTING AND LYING.

1. Benches and stall bars.
2. Horizontal Gymnasium Ladder.
3. Parallel Bar.

Exercises selected from lying frontways and rearways, pp. 99 to 102, grades VII-IX, should be continued in these grades. Furthermore, the exercises given under IV, p. 101, of grades VII-IX should be adapted to sitting and performed on the above apparatus. The following objectives should be attained:

1. *Strength and Determination Aim:* Double knee and hip raising —— times in lying on the oblique ladder.

2. *Strength and Determination Aim:* Double leg and hip raising —— times in lying on the oblique ladder.

3. *Strength and Determination Aim:* Raising trunk, arms upward, —— times in inverted lying on the oblique ladder, (hanging on knees).

THE ACTIVE HANG

HORIZONTAL LADDER OR BAR

I. Trunk exercises with leg positions.

1. In the { straddle / squat (single, double) / balance (single) } hang, turn trunk { left / right / alternately }

Command, jump to hang (grip) with knees raised forward and turn trunk left—jump (1-2-3) ; begin 1-2, etc., in rhythm after having given it on command.

2. In the { straddle / feet raised / backward } hang, bend upper trunk backward

II. Trunk and leg exercises.

1. In the hang turn trunk { left / right / alternately } with
   (a) Leg straddling { sideward / fore-backward }
   (b) Knee raising or swing forward (opposite knee).
   (c) Double knee raising or swing forward.
   (d) Leg swing or raising forward (opposite leg).
2. In the hang bend upper trunk backward with
   (a) Leg straddling sideward.
   (b) Feet raising backward.

Command, jump to hang (grip) ; bend upper trunk and raise feet backward—jump (1-2-3) ; begin 1-2, etc., after it has been given on command.

III. Continuous turn-traveling left (right).

The half turn traveling exercises of grades VII-IX, p. 109, are preparatory for this and must be frequently repeated before this exercise can successfully be attempted. It is performed with grip on beam and grip on rounds.

1. Side Hang on Beam: Beginning at the end farthest away from the fixed uprights with an under grip on the outside of the left beam (when facing the fixed uprights), the first half turn left is made about the right arm, the left hand regrasping, however, with upper grip. The next half turn left is made about the left arm with the right hand regrasping with under grip. The movements are then repeated and continued. It is to be observed that in turning left continuously the left hand always regrasps with upper and the right with under grip on the *outside* of the beam. It can also be done on the inside of the beams. Right is the reverse of the above.

2. *Skill and Perseverance Aim:* Side hang on rounds, continuous turn, traveling —— lengths. Beginning as above but with outer grip on rounds, the first turn is performed with regrasping left with inner grip. The second turn with the right hand regrasping with outer grip. The turns about the arms are the same as on the beam.

IV. Hand jumping (simultaneous hand hopping).

1. Hand jumping in place, various grips.

2. Hand jumping to close and { open / span } grip

3. Hand jumping { forward / backward }

The same as traveling forward and backward with omitting the exercises with upper grip on rounds.

4. *Strength and Determination Aim:* Hand jumping sideward —— length of ladder, grip on beams.

5. *Strength and Determination Aim:* The same forward and backward —— length of ladder.

V. Arm bending.

1. Jumping into the momentary bent arm hang with various grips. The apparatus is placed slightly above head high. On the word "jump" the pupils jump upward, coming to a bent-hang with elbows sideward but of short duration, immediately returning to stand.

Pupils should be encouraged to lower the body slowly.

It is varied by repetition on various apparatus.

2. Changing from bent to straight hang.

Command, into bent (arm) hang—jump. To straight hang—lower. To a stand—jump.

The jump into bent hang (description under 3 below) and to a stand should be executed in three counts as previously described. Lowering to the straight hang is done slowly and without holding the breath. This exercise is repeated on various apparatus with the following grips:

(a) Under grip.
(b) Mixed, upper and under grip.
(c) Upper grip.
(d) Outer grip (cross hang).
(e) Grip on beam and round.

3. *Strength and Determination Aim:* Jump to bent hang and jump to stand —— times on reach high bar, under grip.

As considerable strength of the elbow flexors and adductors of the arm must be developed before beginning exercise four it is well to vary exercise two still further by assuming simple leg positions with the jump into bent-hang or adding simple leg movements to the lowering into hang.

4. *Strength and Determination Aim:* Arm bending in the under grip hang —— times (pull-ups). The pupil assumes the long hang with under grip and slowly raises the body through the short (active) to the bent-hang, with elbows drawn firmly to side, chest raised, and head well up, the bar being about on a level with the chin.

5. *Endurance and Tenacity Aim:* Jump to bent-hang and hold —— seconds.

VI. Leg movements in the bent arm hang.

In the bent hang:

1. Linked and double foot raising and swinging upward.
2. Single, alternate, linked, and double knee raising forward.
3. Double knee swinging forward and lowering.
4. Leg straddling sideward and closing.
5. Rapid leg straddling sideward and closing.
6. From the straddle hang, rapid leg crossing left (right and alternate) in front and straddling.

7. Single, alternate, and linked leg raising forward (balance hang).

8. Leg straddling left (right, and alternate) forward and closing.

9. Rapid leg straddling left (right, and alternate) forward and closing.

10. From the left forward straddle hang (8) rapid changing of straddling position (or double leg swinging in opposite direction).

11. Single, alternate and double knee raising 1, straightening forward (sideward) 2, and leg lowering 3.

12. From 2 (squat or crook hang) both knees raised forward, leg straightening forward.

13. *Strength and Determination Aim:* Double leg raising forward to balance hang —— times.

The bent arm hang may be obtained from the jump or from the hang. The number of repetitions of leg movements depends upon the progress of the class. When given as class or group work they may be stated in the exercise, thereby limiting the number or taken in an unlimited manner on command. Two forms of execution:

(a) When first teaching these exercises the return movement of the legs may be made to occur simultaneously with the straightening of the arms to the hang. The three and four movement sequences can always be arranged in this manner.

(b) By completing the leg exercise and jumping directly to a stand from the bent arm hang. This form should be used as soon as possible.

Command, double knee raising in the bent-hang, straighten arms and lower knees into the hang. Jump—one, two, three. Raise (1), lower (2), jump (to a stand)—one, two, three.

Command, alternate leg raising forward (6 counts) in the bent arm hang. Jump. Raise (1), lower (2), etc., 3—6. To a stand—jump.

Jumping into the bent hang and simultaneously raising

the legs into the position named above should also be frequently used.

RINGS

With a few exceptions the exercises given here under the rings may also be performed on the single and double ropes and poles.

VII. The fore-backward shortswing in the pendulum swing.

After having acquired a swing in the hang on the rings from a running start the short swing from the hips is begun. Two short swings are performed in each swing of the rings forward and backward. When the rings are forward the legs are in the forward position of the shortswing; as the rings reach the center of their pendulum motion the legs have completed the backward swing, and begin their forward swing, the feet hitting the floor with some indicated touch-off. As the rings complete their backward swing, the second short swing is also completed, i. e., the legs are again backward so that the body will be thoroughly extended. The two short swings are then repeated in the forward pendulum swing.

This exercise is performed with:

1. A two step touch-off, l and r or r and l (feet being in a stride position).
2. A double touch-off (feet being together).

VIII. The bent-arm hang in the pendulum swing.

These exercises should be chiefly performed on the double apparatus but may be done upon the single ones (one ring, rope or pole). Large classes sometimes compel the use of the single apparatus.

1. Jump to bent-hang in the center of the forward pendulum swing.

After starting the pendulum swing with some indicated touch-off, the pupil takes a vigorous jump from the last foot touching and pulls up to the bent arm hang. In this and in the following exercises, the elbows should be kept at the side and instruction given as to holding the breath. Leg movements in the bent-hang will prepare the pupils for this position, rather

difficult to maintain, during swinging. The jump-off and repetition occur as follows:

(a) Jump-off at the end of the backward swing (backward jump-off).

(b) Jump-off at the end of the next forward swing (forward jump-off).

(c) Lower to hang at end of backward swing and repeat (two or three times).

Command, pendulum swing with two steps touch-off and jump to bent hang. Jump-off with next forward swing. It is advisable to begin these exercises with a backward run.

2. Jump to bent-arm hang in the center of the backward pendulum swing.

Executed the reverse way of the previous exercise.

3. *Strength and Determination Aim:* Pull-up (to the bent-hang) with the forward pendulum swing —— times.

Performed as 1, excepting that the body is pulled up as the pendulum swing approaches its forward end, requiring more strength. A jerk from the hips may give considerable assistance. Sink to the hang at end of backward swing.

4. *Strength and Determination Aim:* Pull-up to the bent-hang with the backward pendulum swing.

This exercise is the reverse of 3. The bent-arm hang may be maintained for —— pendulum swings as an *Endurance and Tenacity Aim* before performing the jump-off. The same in exercise three.

IX. The bent-arm hang with leg positions in the pendulum swing.

With the bent hang pendulum swing as given under VIII, the following positions may be assumed:

1. Single, alternate and double knee raising forward (squat hang).

Command: Pull-up to the bent hang with knees raised forward with the forward pendulum swing with two steps touch-off. Jump-off at end of backward swing. The jump-off is preceded by knee lowering. If the single pole is used double knee raising forward is executed on the left or right side of the pole, depending on the grip.

2. Single, alternate (and double) leg raising forward (balance hang).

3. Double leg raising sideward (straddle hang).

X. Whole turns at end of pendulum swing.

The half turns at end of swing of grades VII-IX should be repeated before taking up the whole turn. These are easiest performed on the single ring. They may also be practiced on the single rope. The double rings are used last.

1. Continuous whole turns at end of forward pendulum swing.

Assistance may be obtained from the touch-off when first trying the whole turn. It may be executed continuously left or right.

2. *Skill and Perseverance Aim:* Alternate whole turns at the end of the forward pendulum swings —— times.

3. Continuous whole turns at end of backward pendulum swing.

4. *Skill and Perseverance Aim:* Alternate whole turns at end of backward pendulum swing —— times.

5. *Skill and Perseverance Aim:* Alternate whole turns at end of forward and backward pendulum swing (e. g., whole turn left in forward, and whole turn right in backward swing) ; —— times.

Turns (half and whole) and returns may also be done at either end of a pendulum swing.

Reviews: Review the various inverted hangs.

Skill and Perseverance Aim: Hold the inverted straight hang during —— pendulum swings. Care must be taken when returning to a hang. It is best done by bending arms and hips and lowering the body slowly. Swing into the inverted hang at end of forward swing.

3. Review the inverted balance in pendulum swings (p. 117).

XI. The pendulum vault. (Fig. 19.)

Preparatory: Exercises in the pendulum swing, particularly arm bending and jump-offs. (See Track and Field Activities.)

10—61550

Skill and Perseverance Aim: Pendulum vault over —— high bar.

The ropes are preferable for vaulting, as they do not need to be adjusted as to height. The distance of the jumping standard with the cross bar or rope from the climbing ropes depends upon the height of the vault and must, therefore, be increased with the increase in height to be vaulted. The vault

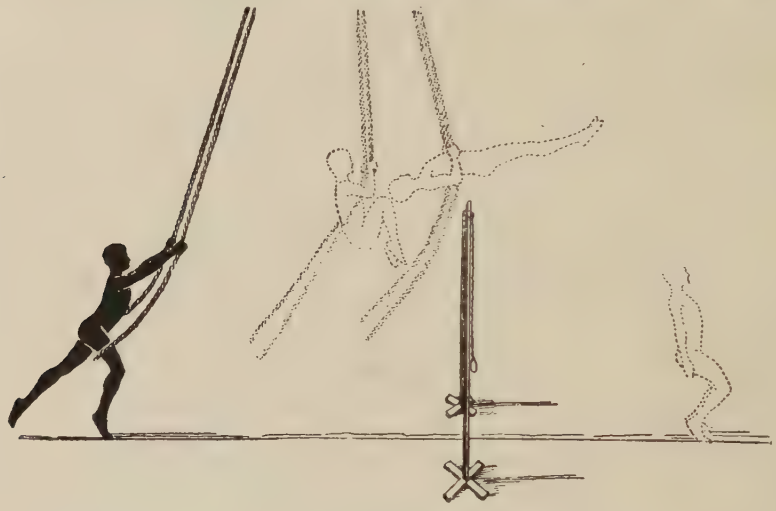


FIG. 19
The pendulum vault.

may be begun in the preceding grades and continued in the next grades.

Execution:

When a difficult height is reached grasp the ropes about head high and run backward with them, thereby gaining an increased pendulum motion. With the forward swing vigorous and rapid steps are taken to increase the swing and at the same time prepare for the take-off. The take-off should be single and executed with force, the arms thoroughly bent and the knees raised as high as possible. As the cross bar is reached the legs are extended over it and the ropes released, the vaulter alighting in a squat stand with arms sideward.

Playforms: pendulum vault from stand on buck or other apparatus.

(a) With straight arms. Bend knees and slide from the buck, keeping the arms straight to avoid the jerk that usually occurs if the pupil is not strong enough to hold the bent hang.

(b) With bent arms. With different leg positions. These exercises may be used as preparatory for the vault and are performed without vaulting over a height.

SUSPENSION ACTIVITIES PECULIAR TO CERTAIN APPARATUS

ROPES OR POLES

I. Review the different forms of upward climbing.

(a) *Speed and Determination Aim:* Climb —— feet in —— seconds, using simultaneous grasp, also with over grasp.

(b) *Endurance and Tenacity Aim:* As a, climbing —— feet.

II. Review horizontal and upward climb-traveling.

(a) *Endurance and Tenacity Aim:* Horizontal climb-traveling on —— poles; upward climb-traveling on —— poles.

(b) *Speed and Determination Aim:* As a, but on —— poles in —— seconds.

III. Review the pendulum vault (ropes).

SEE-SAW (WHIPPLE OR SWINGING LADDER)

IV. Swinging with arm bending and straightening with leg exercises.

The arm bending and straightening occurs at the end of the upward swing. It demands considerable control and care. The one in the squat stand must hold the ladder steady while the pupil swinging performs the arm bending and straightening. He must anticipate the sudden releasing of the body weight produced during the arm bending and maintain his hold without further moving the ladder; he must likewise anticipate the sudden return of the weight as the arms of the

other pupil straighten and give way gradually. This should be thoroughly learned before attempting the following exercises in the swing:

1. Repeat 1-5 under II of grades VII-IX, p. 118 (single, alternate, linked, leg exercises).
2. Single, alternate, and double knee swing forward, straightening and lowering.
3. Double leg raising forward with side straddling.

V. As IV with trunk turning (and leg exercises).

Trunk turning left (right) or alternately with—

1. Double foot swing backward.
2. Single, alternate (opposite from turn) and double knee swing.
3. Single and alternate (opposite from turn) leg swing forward.
4. Leg straddling sideward.
5. Leg straddling forward (right leg forward with trunk turning left).
6. Single and alternate hand lifting in the squat-stand.
7. Single and alternate grip changing from beam to round and return in the squat-stand. Single: the left hand changes to round during one squat-stand and returns during the next; this is then repeated. Alternate: this requires four swings.
8. Single and alternate grip changing with repeating 1-5. Grip changing during the swing is very difficult and should only be attempted by advanced pupils. It is preceded by single and alternate hand lifting. Appropriate exercises may be selected for execution in the side hang with grip on beam and round or on two rounds.

VI. The circle swing vault from the flank formation and the bell from the front formation.

1. The circle swing vault with five (or three) steps start. As group work and preparatory the exercises begin after a preliminary run. The vault is performed over an imaginary bar. Upon a signal from the instructor the pupils take the start as indicated, while running in a circle and swing away from the circle (flying), facing outward and turning again

toward the center during the interval of flight which ensues. Upon repetition the number of steps start is reduced. The exercise is also performed over obstacles, as over a cross bar held in position by a pupil or placed upon standards. As such it is performed as an aim.

Skill and Perseverance Aim: Circle swing vault over —— high bar. One pupil at a time.

2. The Bell from the front formation (left and right sideward).

The Bell with upper grip on the head high rounds of two neighboring ladders.

Preparatory.

(a) Running left (right) sideward, various modes.
(b) Galloping sideward, left (right).
(c) The Bell from a running start: upon command, after a definite number of steps.
(d) Alternations of running sideward (a number of steps) with the bell.
(e) As (c) and (d), from galloping sideward.
(f) As (c), (d) and (e) with every other pupil facing outward.
(g) As (c), (d) and (e) with all the pupils facing outward.
(h) As (f) and (g) in the bent arm hang.

VII. From flank formation circling forward with giant strides and circle swing of legs.

1. Circling forward with giant stride.

The exercises begin with ordinary running start and changing upon command to giant strides, touching-off forcibly so as to produce an interval of flight after each stride.

2. Circling forward with circle-swing of legs. This necessitates a running start upon which the exercise is started by a forcible touch-off, swinging the legs in a curve backward, outward, and forward, and then again touching off to repeat the leg-swing. The touch-off consists of:

The two step touch-off; i. e., left and right or vice versa.
The double touch-off; i. e., both feet together.

It is performed with:

(a) Upper arm hang on two rounds.

(b) Upper and under grip on one ladder (first and third round), ladder in front.

(c) *Skill and Perseverance Aim:* Upper and under grip on one ladder, ladder overhead (or in front) —— times around.

(d) Upper and under grip on one ladder, ladder in rear of body.

(e) *Skill and Perseverance Aim:* Upper grip of inner hand, outer arm free, —— times around.

3. From flank formation circling backward with circle-swing of legs backward. This exercise is the reverse of 2, starting from a preliminary run backward. It is also to be practiced as a

Skill and Perseverance Aim: —— times around, grip on two rounds.

VIII. Whole turns during circling from the flank formation.

1. Forward running with whole turn inward upon command. Upon the given signal the pupil swings the entirely straightened body outward and turns inward, resuming the run upon completion of the turn. Good speed and a large swing are required.

2. Forward running with whole turn outward upon command.

3. Backward running with whole turn outward upon command.

4. Backward running with whole turn inward upon command.

5. As 1 and 2, from the forward circle-swing of the legs.

(a) *Skill and Perseverance Aim:* Whole turn outward —— times.

(b) *Skill and Perseverance Aim:* Whole turn inward —— times.

6. As 3 and 4, from the backward circle-swing of the legs.

(a) *Skill and Perseverance Aim:* Whole turn outward —— times.

(b) *Skill and Perseverance Aim:* Whole turn inward —— times.

These exercises are performed with upper and under grip on one ladder and with the ladder in front. Other grips may be tried.

IX. Playforms: From front formation the hanglying position during circling and combined with the bell.

1. Hanglying position during circling left (right) sideward.

The pupils grasp the head high round of two neighboring ladders with upper grip as in the bell, and place the right (left) foot on the lowest round.

2. Alternations of hopping sideward with flying in hanglying position. Upon command: after a certain number of hops and an equal number of counts of flying.

The hopping foot is held pendant during the period of flight or is placed to the right foot on the lowest round.

3. Half of the pupils in hang-lying position hop sideward, the other half run sideward and form the bell.

4. Every other pupil assumes the bell. Execution as under (1). The pupils forming the bell may assume the bent-arm hang.

SUPPORT

SIDE PARALLEL BAR, HORIZONTAL BAR OR LADDER

I. Hand hopping and grip changing in the support.

Jump into support with upper grip and then:

1. Single and alternate hand-hopping in place.

2. Single and alternate grip changing (change left and return, change right and return).

3. *Strength and Determination Aim:* Traveling sideward left (right) ——length of bar.

PARALLEL BAR

II. Vaults from swinging in support.

1. The rear vault from swinging. (Fig. 16.)

(a) Support swinging into outer oblique seat front of hand. Jump-off.

(b) *Skill and Perseverance Aim:* Support swinging and rear vault over —— high bar.
(c) As a, from a cross stand, i. e., jump to support, and immediately foreswing into outer oblique seat.
(d) *Skill and Perseverance Aim:* As c, but immediately rear vault over —— high bar.
(e) As b and d, with a quarter turn toward the apparatus.
(f) As b and d, with a quarter turn from the apparatus (flank vault).
(g) *Skill and Perseverance Aim:* As b and d, with half turn toward the apparatus.
(h) b-g, excepting c, preceded by inner and outer seats.

2. The front vault from swinging. (Fig. 14.)
(a) Support swinging into support lying position on one or both feet. Jump-off.
(b) *Skill and Perseverance Aim:* Support swinging and front vault over —— high bar. (Care.)
(c) *Skill and Perseverance Aim:* Support swinging and front vault with a quarter turn toward the apparatus over —— high bar.
(d) Exercises b and c, preceded by inner and outer seats.

These vaults from swinging may also be preceded by seat changing exercises.

Strength and Determination Aim: —— backward swings into support lying position and —— push ups.

JUMPING, MOUNTS, DISMOUNTS AND VAULTS

For jumping, see Track and Field Activities. Review interesting exercises selected from the Long Jumping Rope of Grades VII-IX, particularly the Aims. Increase the number of jumps as suggested in the Aim Chart.

SIDE HORSE

I. Variations of the front and flank vault.

1. With appropriate ¼ turns.

2. *Courage Aim:* With grip on right pommel and right end for the flank and front vault left over —— high horse.

3. Playforms: With grip on pommels or as under 2, but with an object (basket ball) placed on the opposite end.

II. The rear vault left.

Preparatory:

The fencer's rear vault over the long horse must precede this.

From a side stand frontways, with and without running start:

1. With grip on right pommel and end, rear vault mount left into riding seat.

2. As 1, but into closed cross seat.

3. As 1, with rear vault left into cross stand.

4. As 1, but with grip on pommels.

5. *Courage Aim:* With grip on pommels, rear vault left into cross stand over —— high horse. (Page 49.)

III. The squat-straddle (wolf) vault left over side horse.

Preparatory:

The knee and squat mounts.

1. With grip on pommels, knee-mount right on saddle with foot-placing left on neck (left end), leg extended. Jump-off.

2. As 1, with left leg raised sideward instead of foot placing.

3. As 1, with squat mount instead of knee-mount.

4. As 2, with squat mount instead of knee-mount.

5. *Courage Aim:* From a running start with grip on pommels, squat straddle vault into left stand over —— high horse. (P. 47.)

IV. The squat vault sideward and backward.

Review the squat-vault forward; add the ¼ turns as *Courage Aim* over —— high horse.

Preparatory:

1. From running start, squat mount right in saddle, with ¼ turn left and upper grip on left pommel.

2. As 1, but double squat-mount.

3. As 1, but squat vault sideward right (¼ turn left).

The squat vault backward. Preparatory:

4. From a running start, squat mount left backward on saddle, with ½ turn left, and right hand on left and left on right pommel. The turn occurs with the jump.

5. As 4, but squat mount right backward.

6. As 4, but double squat-mount backward.

7. As 4, but squat left backward into riding side seat.

8. As 6, but squat right backward.

9. As 4, but squat vault backward with ½ turn left.

LONG HORSE OR BUCK

V. Variations of the fencer's rear vault.

1. *Courage Aim:* With (¼ and) ½ turns toward the apparatus over —— high horse.

2. With ¼ turn from the apparatus.

3. Playform: With an object placed on the far part of the horse (to compel pupils to swing the feet high).

These exercises should be preceded by a review of the fencer's rear vault for form.

VI. The rear vault left.

Preparatory:

The fencer's rear vault, rear vault from swinging in support on the parallel bar, and rear vault over side horse.

From the cross stand frontways, with and without running start:

1. Jump to an oblique seat on right side. Jump off right sideward.

2. Rear vault mount left into riding seat. Rear vault dismount left sideward. The legs swing past the right side.

3. Rear vault mount left into oblique seat on left side. Jump-off.

4. *Courage Aim:* Rear vault left into cross stand over —— high horse. Playform as under V.

The above exercises may also be performed on the long buck. Likewise suitable exercises under side horse.

VII. The straddle vault over the long and side buck.

Courage Aim: Over —— high buck.

EXERCISES ON THE BALANCE BOARDS

Repeat exercises of Grades VII-IX on higher balance boards.

I. Walking on fours and the balance-stand frontways.

1. Walking on fours (playform).

2. The balance-stand frontways alternated with the balance walk.

(a) Four steps forward and the balance-stand frontways, four counts.

(b) Decrease the number of steps taken forward, but retain the duration of the balance-stand.

II. Playforms: Changing to a seat in the center of the raised board.

1. Balance walk forward (and backward) and lower to a cross-seat on one thigh. Rise and continue balance walk or return. To be done without using the hands.

2. Balance walk sideward (closing-step), lower to a side-seat, rise and continue or return.

3. As 1, but lower to a side-seat (one-fourth turn), change to a cross-seat (one-fourth turn as before), rise and walk forward or backward.

4. *Skill and Perseverance Aim:* As 1, from cross-seat, double leg-swing over board to cross-seat on other thigh, rise, etc.

III. Jumps on to the balance board and turns in the balance walk.

1. Playforms: From the side-stand frontways:

(a) The stand-jump into the double and single stand on board.

(b) The step-jump into the double and single stand on board from one or three steps start.

Descend from the stand on the balance board with a closing step or a jump.

2. The balance toe-walk forward, sideward (closing-step), and backward and one-half turn into the opposite, and one whole into the same direction.

3. Playform: As 2, with one-half turn and two pupils coming from opposite direction meeting and turning about each other.

4. As 3, but the pupils endeavor to push each other off the board instead of turning.

The balance boards are gradually to be raised and also placed into an inclined position.

Aim Chart for Grades X-XII.

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Skill and Perseverance	Continuous turn traveling on rounds....lengths.....	Hor. ladder.	140	
	Alternate 1/1 turn at end of forward pendulum swing ....times.....	Rings.	145	
	Alternate 1/1 turn at end of backward pendulum swing ....times.....	Rings.	145	
	Alternate 1/1 turn at end of forward and backward swing ....times.....	Rings.	145	
	Pendulum vault over.....high bar.....	Rgs. and jpg. st.	146	
	Hold inverted hang during....pendulum swings.....	Rings.	145	
	Circling forward with circle swing of legs.....times around (grip on two rounds).....	Circle swing.	150	
	Circling forward with circle swing of legs.....times grip on one round.....	Circle swing.	150	
	Circling backward with circle swing (grip two rounds) ....times.....	Circle swing.	150	
	Circling forward with circle swing of legs (two rounds) 1/1 turn inward ...times.....	Circle swing.	150	
	Circling forward with circle swing of legs (two rounds) 1/1 turn outward....times.....	Circle swing.	150	
	Circling backward with circle swing of legs (two rounds) 1/1 turn outward....times.....	Circle swing.	150	
	Circling backward with circle swing of legs (two rounds) 1/1 turn inward....times.....	Circle swing.	151	
	Support swing and rear vault over.....high bar.....	Par. bar.	152	
	Rear vault from cross stand over.....high bar.....	Par. bar.	152	
	Support swinging and rear vault with half turn inward..... high bar.....	Par. bar.	152	
	Rear vault cross stand with half turn inward.....high bar.	Par. bar.	152	
	Support swinging and front vault over.....high bar.....	Par. bar.	152	
	Support swinging and front vault with one-quarter inward .....bar.....	Par. bar.	152	

Aim Chart for Grades X-XII—Continued.

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
	Review jumping rope aims increase no. of jumps.....	Jpg. rope.		
	(a) Tossing up basket ball and catching it....times.....	Jpg. rope.	125	
	(b) Double Dutch....times.....	Jpg. rope.	126	
Strength and Determination	Balance walk to center, lower to cross seat, swinging legs to other side, rise, balance walk to end.....	High bal. Board.	155	
	Pushup....times from horizontal support lying.....	Ft. on stall bars.	137	
	....Dips on parallel bar, support lying.....	Par. bar.	138	
	Doing knee and hip raising....times, lying on oblique ladder.	Obl. ladder.	138	
	Doing leg and hip raising....times, lying on oblique ladder.	Obl. ladder.	138	
	Trunk raising with arms upward.....times, lying inverted on oblique ladder.....	Obl. ladder.	140	
	Hand jumping sideward....lengths, on beam.....	Hor. ladder.	140	
	Hand jumping forward and backward....lengths on beam..	Hor. ladder.	140	
	Jumping to bent arm hang and down....times, on reach high, hor. ladder.....	Hor. ladder.	141	
	Pullups from hang (undergrip)....times.....	Hor. ladder.	141	
	Double leg raising....times in bent arm hang.....	Hor. ladder.	142	
	Pullups in forward pendulum swinging....times.....	Rings.	144	
	Pullups in backward pendulum swinging....times.....	Rings.	144	
	Travel sideward (left or right) in side support (length of bar)	Bar.	151	

Courage	Flank vault left, grip on right end and pommel, over ....high horse	Side horse.	153	
	Front vault left, grip on right end and pommel, over ....high horse	Side horse.	153	
	Rear vault left, grip on pommels, over....high horse	Side horse.	153	
	Wolf vault left, grip on pommels, over....high horse	Side horse.	153	
	Squat vault with one-quarter turn, grip on pommels, over ....high horse	Side horse.	153	
	Fencer's rear vault, with half turn inward over....high horse	Long horse.	154	
	Rear vault, over....high long horse.	Long horse.	154	
	Straddle vault, over....high buck	Buck.	154	
Endurance and Tenacity	Jumping to bent hang and hold....seconds	Hor. bar or ladder.	141	
	Climbing....feet, simultaneous grasp and over grasp	Poles or Ropes.	147	
	Horizontal climb traveling on....poles	Poles or Ropes.	147	
	Upward climb traveling on....poles	Poles or Ropes.	147	
Speed and Determination	Climb....feet in....seconds (sim. and over grasp)	Poles.	147	
	Horizontal climb traveling on....poles in....seconds	Poles.	147	
	Upward climb traveling on....poles in....seconds	Poles.	147	

ADVANCED WORK

ACTIVE HANG

HORIZONTAL LADDER

If exercises for apparatus not given here are desired, those of the previous grades may be repeated and made more interesting and difficult by arranging them into easy sequences or combinations.

I. Hand hopping in the bent (arm) hang.

1. Alternate hand hopping in place.
2. Alternate hand hopping to span and open grip (side hang).
3. Hand hopping left (right, and alternate) forward and backward.
4. Hand hopping left (right, and alternate) to round (upper grip) and beam.

The bent-hang is obtained from the jump and from the hang.

II. Handwalking sideward, forward, and backward in bent-hang.

Sideward is executed in the side hang with upper grip and forward and backward in the cross hang with outer grip on beams. For strong pupils, leg positions may be added to the exercises under I and II.

1. *Endurance and Tenacity Aim:* Travel sideward on beam —— length.
2. *Endurance and Tenacity Aim:* Travel forward and backward on beam —— length.

III. Continuous turn-traveling left (right) with the side swing.

The execution of these exercises is described on page 140. To this must be added the side swing. To make a nicely finished performance of turn-traveling the arm, when the hand has released its grip, should be swung side-downward to the side of the body as it swings and turns, and then swung side-upward to regrasp either the beam or the next round. These exercises in the still hang are, of course, to be considered as

preparatory for the above. "*The hang turn (left, right and alternate) with the forward long swing*" (horizontal bar) may be mentioned here although not much used in apparatus work for women. Care should be taken in all swinging exercises to prevent falls. When the apparatus is too high to grasp the pupils' fore-arm or wrist the assisting pupil should be placed where the one exercising is liable to fall.

Skill and Perseverance Aim: Continuous turn traveling left and right on rounds —— lengths.

Appropriate exercises from the previous and these grades should be repeated on the oblique ladder, particularly the following aims:

(a) Double leg raising —— times in the hang; in the bent hang.
(b) Pull up —— times from the hang.

JUMPING, MOUNTS, DISMOUNTS, VAULTS

For jumping, see Track and Field Activities. Pleasing Exercises in the Long Jumping Rope of Grades VII-IX may be selected for review.

SIDE HORSE

I. Leg swing mounts and various dismounts.

1. Leg-swing mount left outward and forward with quarter turn right into the riding (or stride) cross-seat and

(a) Leg swing dismount
(b) Front vault dismount left
(c) *Simple Skill Aim:* Rear vault dismount left
} to a cross-stand.

(d) Repeat the dismounts with appropriate quarter and half turns.

The exercise begins from a running start or from a stand frontways and is executed (a) on the left end (neck), grip on horse and left pommel; (b) in the saddle, grip on both pommels; and (c) on the right end, with grip on horse and right pommel.

Following the instant of support during which the leg is

swung sideward and forward, the left hand grasps beside the right and the body turns (¼) to the right, terminating in the riding cross seat. The dismounts occur from this position. (P. 50.)

The front and rear vault dismounts must be preceded by swings of the legs backward and forward returning to the riding seat, until the ability is acquired to raise the body clear of the apparatus into a position frontways, with the body thoroughly extended for the front vault dismount, and a position rearways with trunk erect, hips flexed, and legs extended, for the rear vault dismount. The respective leg-swing dismounts are preparatory exercises for this.

2. Leg-swing mount left inward and forward, with ¼ turn right into the riding (or stride) cross seat and dismounts as under 1.

Simple Skill Aim: Exercise 2 into saddle and front vault dismount to a stand.

The execution differs from 1, inasmuch as the leg is swung inward under the right hand instead of outward, and that the right hand immediately regrasps the same part of the horse followed by the left hand, which also grasps the same part. It should be taken:

(a) On the right end (croup), grip on right pommel and right end;
(b) In the saddle, grip on both pommels; and
(c) On left end (neck), grip on left pommel and left end.

3. Leg-swing left outward and forward under left hand
4. Leg-swing left inward and forward under right hand

} into stride side seat on the parts of the horse as under 1 and 2, respectively.

There is no turn in these exercises and the hand immediately regrasps the same part of the apparatus. It may terminate in a stride support instead of a seat. The dismount consists of:

(a) Leg-swing right forward under right hand.

(b) Leg-swing forward with ¼, ½ and ¾ turn left (turn dismount).

(c) Leg-swing left backward under left hand. Performed as a leg circle when following Exercise 4.

(d) Leg-swing left backward with ¼ turn left.

These exercises should be required as *Simple Skill Aims.*

II. The straddle vault.

Preparatory:

1. Jump to momentary support and straddle legs sideward.

2. As 1, with raising hips.

3. Jump to straddle stand on horse and jump-off forward without and with ¼ and ½ turns.

4. *Courage Aim:* Straddle vault forward over —— high horse. (Assistance.) (P. 50.)

The straddle vault over buck is also used as preparatory exercise.

III. The thief vault over side horse.

The take-off is placed from two to three feet from the horse to give sufficient space for the leg-swing forward to clear the apparatus. A vigorous run and single take-off right (or left), is required.

Preparatory:

1. Squat mount left in saddle, with grip on pommels. The pommels are grasped after taking off right and about simultaneously with the placing of the foot in the saddle. Care must be taken not to grasp the pommels with the take-off, which is a common fault. This preparatory exercise may be omitted.

2. Squat left forward into riding (or stride) side seat, grip on pommels. The foot clears the horse before the hands grasp the pommels.

3. *Courage Aims:* The thief vault left into (seat or) support rearways in saddle and into stand rearways, with grip on pommels, over —— high horse. (P. 51.)

Progression: By raising the apparatus; by moving the take-off board backward.

IV. The long vault.

Preparatory: Long horse without pommels—

1. The long vault into riding cross seat.
   (a) On croup, with grip on saddle (near pommel).
   (b) In saddle, with grip on saddle (far pommel).
   (c) In saddle, with grip on neck.
2. As 1, b and c, into support lying frontways.

The vault. Side horse.

3. *Courage Aim:* Long vault over side horse —— high on assistant's shoulders. (P. 51.)

The hands do not touch the horse, but immediately take support on assistant's shoulders, who, standing close enough to the horse to enable the pupil to reach his shoulders with the jump, takes a step backward and lowers the pupil to a stand.

LONG HORSE (OR BUCK)

Review the fencer's rear vault without and with turns.

V. Fencer's flank vault left.

The approach is similar to that of the fencer's rear vault left, but from the left side of the horse instead of the right and with the right hand supporting instead of the left. The right foot takes take-off.

1. Fencer's flank vault left into the side support lying position on the right arm.
2. *Courage Aim:* Fencer's flank vault left into side stand over —— high horse. (P. 52.)

Progression by raising the horse.

VI. The fencer's front vault left.

The approach and take-off are the same as that for the fencer's flank vault.

Preparatory:

1. Fencer's front vault mount left into riding seat.
2. Fencer's front vault mount into support lying frontways.
3. *Courage Aim:* Fencer's front vault left into cross stand over —— high horse. (P. 52.)

This is a vault for advanced pupils and should not be attempted until the preceding vaults have been thoroughly mastered. It requires a forceful take-off and a vigorous swing of the free leg and arm.

VII. The straddle vault over side and long buck.

1. Straddle vault with ¼ and ½ turns. The turn is made after clearing the buck.
2. The straddle vault backward. A half turn left (or right) is made immediately after the double take-off.
3. As 2, with an additional ½ turn.
4. *Courage Aim:* As one (½ turn) over —— high buck.

Aim Chart for Advanced Work.

Type of Aim	OBJECTIVE ACTIVITY	Apparatus	Page	Notes
Skill and Perseverance	Continuous turn traveling l (r) on rounds....lengths.....	Hor. ladder.	161	
Simple Skill	Leg swing, mount outward to riding seat and front vault dismount.....	Sd. horse.	161	
	Leg swing, mount inward to riding seat and rear vault dismount.....	Sd. horse.	162	
	Leg swing under same hand and half turn dismount.....	Sd. horse.	163	
	Leg swing under same hand and return to stand.....	Sd. horse.	163	
	Leg swing under opposite hand, three-quarter turn dismount.....	Sd. horse.	163	
	Leg swing under opposite hand and return (leg circle).....	Sd. horse.	163	
Courage	Straddle vault over....high horse.....	Sd. horse.	163	
	Thief vault over....high horse into support rearways and into stand.....	Sd. horse.	163	
	Long vault over....high horse on assistant's shoulders....	Sd. horse.	164	
	Fencer's flank vault over....high horse.....	Lg. horse.	164	
	Fencer's front vault over....high horse.....	Lg. horse.	164	
	Straddle vault with half turns over....high buck.....	Buck.	165	
Endurance and Tenacity	Traveling sideward on beam in bent hang....lengths.....	Hor. ladder.	160	
	Traveling forward and backward in bent hang....lengths	Hor. ladder.	160	

TRACK AND FIELD ACTIVITIES

The events described in this book are those which are most popular with the young women of the Normal College. The running broad jump has been retained because it has been an interesting event of the girls of the grammar grades.

The principles underlying the selection of these events are no doubt to be found in the anatomical build and in feminine nature itself. Much has been written advocating forms of games and athletics for women and girls similar to those of the male sex, but many arguments have also appeared opposing this tendency so that we may still regard this as an open question. With this in mind we have tried to stay on the safe side and, guided by the instinctive promptings of the feminine nature, have selected the milder forms, leaving reasons for this choice to be determined by future investigations.

There is no doubt that the physical build of woman demands an entirely different technique for certain events than that used in men's work (e. g., high jump and throwing the hurlball) and that other events must be modified.

Methods. Nevertheless, athletics are much enjoyed by the feminine sex and should therefore be a part of the regular instruction in physical education. Interest in the work is often lost, however, by wrong methods. If an event is entirely foreign to a pupil she will find no pleasure in struggling through its technique and she consequently loses interest in it. This can be avoided by preparing the pupils for the event by correctly selected class exercises, after the manner of those given after each event in the description (pp. 169-189), and thus give them a foundation upon which they may build. This is particularly true of those events which require considerable skill. These may be given in the form of free exercises to the entire class in the gymnasium or outdoors.

After these fundamentals have been mastered the class may be divided into a number of groups, each group practicing some event under an appointed leader for a definite period of

time and then changing to another event. The number of events which may thus be practiced will, of course, depend upon the time to be used for athletics and the number of pupils in each group. The best time for this work is spring and fall when it may mostly be done outdoors providing facilities are at hand, and at which time athletics should predominate over other work, but it should not be entirely neglected during the winter months. If places are equipped for the different events and the aims for the various ages indicated in some way, it will facilitate the work.

To illustrate: (a) standing high jump, (b) throwing the hurlball, and (c) hurdling, are on the program. Divide the class into three groups. Group 1 begins with a, group 2 with b, and group 3 with c; after ten to twenty minutes' practice the groups change, which is repeated after the same length of time. While these groups are practicing under their leader the instructor passes from group to group and offers suggestions and makes corrections, placing emphasis upon certain parts of each event (see description) and dwelling upon this before proceeding to the next. It is well to select experienced leaders and acquaint them with the method of procedure beforehand. In this way the entire class acquires a fair degree of efficiency in a short time and the interest is maintained by the friendly rivalry which springs up among the members of the group.

A similar method is described for public school work for boys and girls by Wm. A. Stecher in his "Theory and Practice of Educational Gymnastics," page 65, which is here appended.

"In order to have pupils improve in the track and field events it is necessary to have the schoolyard, playroom or gymnasium arranged for daily practice. This can be done easily by selecting suitable parts of the yard and painting upon the bricks or cement the starting marks, also the minimum requirements (distance) for each age.

"For example: Take the standing broad jump. The selected place for practicing this may be in a corner of the yard little used for active play. Mark the 'take-off' by a line about 1 foot long and 1 inch wide. Then, at the proper places, mark

the minimum distance to be jumped by children of 8 years, of 9 years, etc.

"If it is possible, put alongside of this place your marks for the triple standing jump, for the hop, step and jump, for the basket ball far throw, etc., plainly marking each, that the children may know what the minimum requirements for each age are.

"For the practice of running select a side street if your schoolyard is not long enough. Mark off the 50-yard and the 100-yard distance. Then let the pupils know how fast they should be able to cover the distance.

"Writing the distances and the time upon the blackboard for each age represented in your room will stimulate many pupils to test their ability whenever an opportunity offers itself. Another, better way, is to have the pupils select two captains for each event, one for the boys and one for the girls, and have these captains supervise the work and also keep a record of the progress made by each pupil.

"Then, when having a physical training lesson embracing the practice of any track or field event, it will be comparatively simple to divide your class into at least two groups; i. e., those who have reached the minimum requirements and those who have not reached these. The first group may be given into the hands of the respective captains for practice (under your supervision) while you take charge of the group that needs special attention."

DESCRIPTION OF THE EVENTS

RUNNING AND SPRINTING

Endurance runs are not given as competitive events to girls and women but should be included in the regular physical education work. It is advisable to caution pupils to begin deep breathing immediately with the start of the run and to inhale and exhale through the nose. Attention should be called to faulty arm and leg movements.

The following is a suggestion as to the time approximately to be devoted to it in the various grades:

Grades 1, 2 and 3, ages 6 to 10, 1 to 3 minutes.

Grades 4, 5 and 6, ages 9 to 12, 3 to 5 minutes.

Grades 7 and 8, ages 12 to 15, 6 to 9 minutes.

Grades 9 to 12 and above this, 9 to 12 minutes, 12 to 15 minutes and longer time.

The two lengths most commonly used in sprinting are 80 and 100 yards. Longer distances are the exception but shorter distances are used frequently for the girls of the elementary schools.

A well rolled straightaway cinder track, with three-foot wide lanes marked off, and a starting line (scratch) drawn across them is required. A tape stretched across the track and fastened to two posts, indicates the finish. A starter, three timers and three judges are needed. If the time of the separate contestants is to be taken (to figure results in points) more timers are needed. This will eliminate the judges.

The following rules govern competitions in races of 100 yards and over:

For a false start the contestant is set back one yard; the same for a second false start. A third false start eliminates her from the contest. For races under 100 yards the penalty for each of the two first false starts is 1½ foot. A competitor is, furthermore, disqualified if she wilfully pushes against, impedes, crosses the course of (unless leading by about six feet), or in any other way interferes with another competitor.

The sprint may be divided into three parts:

1. The start.
2. Getting into the stride.
3. The finish.

1. *The Start.* The best start is the "crouching start." By adopting this, the runner is able to leave the mark without undue waste of time and strength. The "crouching start" may be divided into three positions assumed on the signals of the starter: (a) "Get on your mark"; (b) "get set"; (c) "go" (or pistol shot).

(a) *Get on your mark.* The runner assumes an easy kneeling position. The stronger foot is placed in front, about four to six inches behind the scratch line, while the other knee is placed on the ground, about at the instep of the forward

foot. The fingers rest on the line, shoulder width apart. Before assuming this posture it is well do dig small holes where the feet come, to prevent slipping when the third signal is given.

(b) *Get set.* Fig. 20. The knees are straightened a little, thereby raising the hips and throwing the body weight forward; the hands keep the body from falling over the line. The position must not be unstable, but very steady. The weight is mostly on the forward foot and the hands, but enough must

FIG. 20
Get set

rest on the backward foot to enable the runner to get a good spring. The runner looks in the direction he is about to run.

(c) *Go.* Fig. 21. On the pistol shot the runner springs forward off both feet. As he makes the first stride with rear leg the opposite arm is swung forward and slightly inward to prevent a loss of balance.

It is important during a start of this kind to concentrate the mind on the gun so that reaction may take place as soon as possible.

2. *Getting into Stride.* The first strides should be of an average length, neither too short nor too long, and very quick,

and gradually increase in length. The erect position should not be acquired too quickly, but gradually, i. e., during the first 10 to 15 yards. The arms should swing in a forward backward direction and not across the body. The leg reaches forward in striding, the toes pointing forward as the foot is put down. All sprinting should be done on the toes. The inward swinging of the foot in rear should be avoided. Quick starting and getting into the stride must be acquired in order to make good time in sprinting.

FIG. 21

Go!

3. *The Finish.* The runner is now ready for the final burst of speed and the finish. No attempt should be made to lengthen the stride unduly. The runner should be careful not to lose her stride. As the tape is approached the runner throws up her arms and breasts it, or throws up one arm and strikes it with the side of the chest. The hands must not touch the tape.

The "crouching start" is essential in sprinting. It should be thoroughly mastered, together with getting into the stride. It is well to cultivate a smooth natural stride and a correct arm swing during class running, both indoors and outdoors.

The teacher should make corrections and offer suggestions,

for the runner often commits faults of which she is unawares. The start, correct stride and arm swing, straight running, and the finish may be separately criticized.

Class Exercises. The crouching start may be taught with the class in open order. It is then given on command: "Get on your mark," "get set," "go," or the simple count 1-2-3.

The stride, arm swing, and position of the body during running may constantly be improved during the class work in running exercises.

Scoring. 100 *Yards.* 17.6 seconds, 1 point; each .4 seconds less, one additional point; 14 seconds, 10 points.

80 *Yards.* 14.6 seconds, 1 point; each .4 seconds less, one additional point; 11 seconds, 10 points.

RELAYS

There are two forms of relays: (a) shuttle, and (b) straight relay. Starting before receiving the flag or before being touched disqualifies the team. Rules governing sprinting are also to be applied here. A starter, timers, and judges are needed. One of the judges may act as scorer.

(a) *Shuttle Relay.* Two posts (jumping standards may be used) are placed opposite each other. The distance between the posts is the length each member of the team is to run (80-100 yards). Each team is divided into two sections and each section is aligned behind a post, one member behind the other (flank formation), and a little to the left of it. The first one carries a small flag or stick and beginning at the starting post runs to the post opposite and hands the flag to the first member of the other half of the team who receives it behind the post and delivers it to the second member of the other section. This is continued until all the members of the team have run. There must be two posts placed in position for each team. The time is taken as the last member passes the starting post. Receiving the flag in front of the post disqualifies the team. Each team furnishes its own flag.

(b) *The Straight Relay.* The members of a team are placed at different points of the track (one member at each point) which are equal distances apart (80 or 100 yards).

Each member runs to the next point where she touches or hands the flag to the next member. If a flying start is permitted all the members of the team except the first stand 25 feet behind their starting mark and receive the flag within this space. Failure to do so disqualifies the team.

Careful watching is required if this race is run on an oval track, as it frequently leads to fouling. All the members of the team should be on the starting mark assigned to them (by drawing for position) when the race is begun. If a member of a team running on the outer part of the track gains the pole (the inner edge of the track) the next team member to take the flag must shift her position accordingly.

In the pursuit relay the members of two teams start at opposite ends of the oval and try to overtake the runner of the opposite team. If any one succeeds in this the race is ended; otherwise the best time determines the winner.

The method of execution and scoring as in vogue in the Philadelphia Public Schools is appended by permission.

Juniors—Boys and girls under 16 years of age (date) and under 5 feet in height.

Seniors—Boys and girls under 16 years of age (date) and 5 feet or over in height.

Twelve to a team. Execution: Six runners of a team shall be arranged behind a post at one end of the lane and the remaining six behind a post at the other end. Several teams will run at the same time. At the crack of the starter's pistol, the first runner of each team will begin the race and run in a straightaway course to the post behind which the other half of his team is arranged; on arriving there, he hands a small flag to the first runner of that half who immediately runs to the other end of the course and hands the flag to the second runner, etc. This plan is followed until each member of the team has run. Efficient timers will be at the starting point to take the time of each team and this will be recorded. Each team furnishes its own flag.

NOTE—In the Shuttle Relay Race the distance will be 110 yards for boys (team distance, three-quarters mile), and 73 1-3 yards for girls (team distance, half mile).

Scoring will be based on a point basis and the average of the team members computed:

Shuttle Relay, Boys: 3.52, 1 point; 3.44, 2 points; 3.38, 3 points; 3.32, 4 points; 3.26, 5 points; 3.22, 6 points; 3.18, 7 points; 3.14, 8 points; 3.10, 9 points; 3.06, 10 points; 3.04, 11 points; 3.02, 12 points; 3.—, 13 points; 2.58, 14 points; 2.56, 15 points.

Shuttle Relay, Girls: 2.15, 1 point; 2.10, 2 points; 2.06, 3 points; 2.02, 4 points; 1.58, 5 points; 1.55, 6 points; 1.52, 7 points; 1.49, 8 points; 1.47, 9 points; 1.45, 10 points; 1.43, 11 points; 1.42, 12 points; 1.41, 13 points; 1.40, 14 points; 1.39, 15 points.

One point for each two seconds less than 2.56 for boys and 1.39 for girls.

HURDLING

Two distances: (1) 100 yards, 4 hurdles, two feet high, 20 yards apart; 20 yards to first hurdle and 20 yards to the finish.

(2) 75 yards, 4 hurdles, 18 inches high, 15 yards apart; 15 yards to first hurdle and 15 yards to the finish. This shorter distance is generally used for high school girls.

The rules governing hurdling and the officials required are the same as those for sprinting. All the hurdles must be cleared in competition; knocking down a hurdle disqualifies the competitor.

Hurdling may be divided into

(1) The start.
(2) Getting into the stride for the take-off.
(3) Taking the hurdle.
(4) Strides between hurdles.
(5) The finish.

(1) *The Start* is similar to that for sprinting. It should always be practiced with taking at least one hurdle. Thus in hurdling the first three parts will always be practiced together, emphasis being placed on each part at different times. The start can be practiced as in sprinting if quickness in leaving the mark is lacking.

(2) It is necessary to repeatedly try *"getting into the stride for the take-off"* so as to strike the take-off place. This is accomplished as follows:

(a) Try the accustomed crouching start and note whether it brings your correct foot to the take-off place for taking the hurdle. If so, practice for perfecting this part of the hurdling.

(b) If the wrong foot strikes the take-off place, changing the foot in front in the crouching start usually remedies this.

(c) If, however, the correct foot comes either too close to, or too far from the hurdle and the distance from the take-off spot is less than a stride the first strides of the start must be shortened or lengthened accordingly. Frequent practice is required to know just how much and when the stride is to be changed in order not to lose in speed. For persons who can take-off with either foot getting into the stride and hitting the take-off is very much simplified.

The number of strides to the first hurdle varies with the individual. For the 18-inch hurdles (15 yards distance) ten to eleven strides usually bring the runner to the take-off place. For the two-foot hurdles (distance, 20 yards) twelve to thirteen strides are usually required.

(3) *"Taking the hurdle"* successfully depends very much upon getting into the stride and correctly hitting the take-off mark which is about three feet in front of the 18-inch hurdles and about 3 to 4 feet in front of the 2-foot hurdles. (The foot which leads in going over the hurdle alights about the same distance from the hurdle.) If this is accomplished the hurdle should be taken by stepping over it, reducing the period of flight as much as possible. The forward leg reaches over the hurdle and strikes the ground as quickly as possible with toes pointing directly forward. A pointing inward will cause the hurdler to lose his balance. The rear leg is drawn after the forward one and is ready for the next stride as the toes of the leading foot touch the ground. In the 2-foot hurdles it is sometimes necessary for short persons to raise the knee of the rear leg sideward during the flight interval to

prevent knocking down the hurdle. This, however, increases the period of flight and consequently the hurdling time.

The trunk and head are slightly bent forward when above the hurdle and the arm action should be maintained in opposition to the leg and with considerable vigor as it increases the speed.

It is well to practice skimming the hurdles to prevent loss of time in going over them.

(4) The *"strides between the hurdle"* consist of an odd number if the hurdler always takes off with the same foot; of an even number if he can take off with either foot. This, however, few hurdlers can do.

For the 18-inch hurdles, with a distance of 15 yards between them, 8 to 9 strides are most commonly used. A good hurdler may reduce them to 7.

For the two-foot hurdles, with a distance of 20 yards between them, 11 to 12 strides are generally used, although some can cover the distance in 9 to 10.

The thing to observe is that the strides are natural and not forced, as this will decrease the speed. A larger stride should come with increased strength and good form and not from a conscious effort to lengthen it. What was said about form in sprinting also applies here.

(5) To become accustomed to *"the finish"* the last 15 (or 20) yards of the full distance should always be run out in practice even if shorter distances and fewer hurdles than the full distance required, are used. Breasting the tape is the same as in sprinting. (See page 172.)

Class Exercises. The crouching start may be taught to the class as in sprinting. (See page 172.) The second, third and fourth part of the technique may be taught by four to eight pupils working together and the next four to eight following in rapid succession since there is usually sufficient space for this and since not many hurdles are required. This may be practiced indoors as well as outdoors. The outdoor work should always be preferred.

12—61550

JUMPING

1. *The Standing Broad Jump.*

The take-off board for field work consists of an eight-inch joist (about 3 feet and 6 inches long) sunk into the earth so that it will be flush with the ground. Jumps are measured from the far edge of this board (scratch line) to the nearest impression made by the jumper, and at right angles to the board. A jumping pit filled with sand should be constructed to alight in. This, however, is more essential for the running broad and high jump than for the standing jump.

Making a mark (when using spiked shoes) on the ground in front of or stepping over the scratch line is a foul jump and constitutes a trial without result. Likewise if a preliminary jump is made on the take-off board. Pupils who do not use spiked shoes may put their toes over the edge of the board. In competition three trials are given, the best one counting. Three judges officiate at all forms of jumping. One of them acts as scorer to record results.

The jumper, after assuming his place on the take-off board, rises on toes and swings his arms fore-upward, hands clinched, and stretching thoroughly. He then bends his knees to a position from which he feels that he can get the greatest force to propel his body forward and swings his arms fore-downward and backward. Sometimes the stretching and knee-bending is repeated several times preliminary to the jump. The body is inclined slightly forward as the knees are bent and the jump follows from this position. The arms must be swung forcibly to assist the legs in propelling the body forward and should endeavor to reach forward as much as possible. A certain height must be attained to get the most distance out of the jump.

Class Exercises. The class placed in open order may practice the standing jump in place in five counts, at first without and later with arm swinging.

(1) Rise on toes—1. Bend knees half-deep—2. Jump upward and return—3. Straighten knees—4. Lower heels —5.

(2) As 1 with arm-swing fore-upward and downward on 3.

(3) As 1 with arm-swing as explained above.

(4) Repeat the exercises, jumping a definite distance forward which can be constantly increased.

Furthermore, four (to eight) may jump at a time if enough spring boards and mats are at hand in the gymnasium. This may also be done outdoors. If the distances from the scratch line are painted on the floor it will arouse greater interest in the work.

Scoring: 5.2 feet, 1 point; 5.4 feet, 2 points; add one point for each additional .2 of a foot, seven feet equaling 10 points.

The scoring method of the Philadelphia Public Schools (for boys and girls under 16 years of age) is here appended. It is based on a point basis and the average of the team members (the team consisting of twelve members) is computed:

Standing Broad Jump: 2, 1 point; 2.10, 2 points; 3.6, 3 points; 4.2, 4 points; 4.10, 5 points; 5.4, 6 points; 5.10, 7 points; 6.4, 8 points; 6.8, 9 points; 7.—, 10 points; 7.4, 11 points; 7.6, 12 points, 7.8, 13 points; 7.10, 14 points; 8.—, 15 points.

2. *The Running Broad Jump.*

This jump is not as popular as the standing jump, as it causes too much of a jar in taking off. The rules are the same as for the standing broad jump, excepting that the toes must not be placed over the edge in this jump. Making a mark in front of the board constitutes a foul.

It requires a running start of about 100 feet which should bring the jumper with his take-off foot to the far edge of the take-off board. The exact distance must be experimentally found.

Place a mark midway between the take-off board and your starting mark using the first part of the run to acquire speed so that close to top speed will be attained as you strike your half-way mark. The last part of the run should be done at top speed. *Correct striking of the half-way mark* should assure you that you have the correct stride and that you will hit the take-off accurately.

To get the spot for the half-way mark and your starting mark necessitates many repetitions and shifting of these marks. After these have been acquired learn their distance from the take-off by striding so that you can easily locate them at a future time.

In order to make a good broad jump a certain height must be attained during flight. The arms must assist vigorously and the knees should be drawn toward the body during the flight period.

In alighting extend the legs forward and avoid falling backward.

Class Exercises. Practicing for height may be done in class by four to eight jumping at one time, using the spring boards, high jump standards and mats, and constantly increasing the distance and the height. Only a short run is necessary for this.

RUNNING HIGH JUMP

The equipment necessary consists of jump standards, a cross-bar resting on pins projecting not more than three inches from the uprights, and a jumping pit filled with sand. The distance of the run before the jump is unlimited. Usually a start of 40 to 60 feet is taken.

Each competitor is allowed three trial jumps at each height. Running under the bar, the displacement of the bar and landing on any part of the body except the feet (one or both) are counted as trial jumps.

The most popular jumps are the straight-over and the scissor. (The shoot jump, so popular with the men, has been mastered by but few women and has therefore been omitted.)

The straight-over jump. The run, which is at right angles to the cross-bar, is divided as in the broad jump. The speed is moderate; the last few strides are a little longer and faster. Too fast a run gives distance rather than height, while too slow a run may add to the height of the jump but not carry the jumper over the cross-bar. The take-off (not marked) is about half the height of the bar away from the bar and must be hit with the take-off foot. It is moved back as the height increases. The pendant leg is swung fore-upward across the

bar, while the take-off leg follows rapidly to meet it. During the flight over the bar the knees are drawn up as high as possible. The landing is made in a squat stand. In leaving the ground the arms assist the rise of the body by a vigorous swing.

The scissor jump. The run may be made from either the left or the right side in an oblique direction toward the bar. If made from the left (facing the bar from the front) the right foot is the take-off foot. The left leg is swung vigorously up and over the bar to the left and the right leg follows with an equally vigorous swing.

Class Exercises. If four (to eight) pairs of jumping standards and mats are at hand in the gymnasium the entire class can be taught the two forms of high jumping by four (or eight) jumping at a time. The step-jump taught in open order and with a number of steps start may also be used as preliminary exercises for the straight-over jump.

Scoring: 3.1 feet, 1 point. Each .1 foot higher equals an additional point; 4 feet, 10 points.

STANDING HIGH JUMP

The rules governing the running high jump govern also the standing high jump with evident exceptions. Furthermore, the feet may be placed in any position, but must not leave the ground more than once in making an attempt. To do so constitutes a trial. This, however, does not prohibit rocking forward and backward, lifting heels and toes alternately. The preliminary movements are similar to those of the standing broad jump. A vigorous swing of the arms is necessary. When the body is going over the bar the knees should be well drawn up to the chest. It is necessary to acquire a certain distance in addition to height, or the body will come down on the bar and not be carried over it. It may also be done sideward as the scissor running high jump.

Class Exercises. To the class exercises in open order given under the standing broad jump, excepting those from place, add knee-swing upward (left, right and both) during flight. Then by fours (or more) practice the standing high jump over the cross-bar or over wands held by pupils.

Scoring: 1 ft. 8 in. = 1 point. Each 2 in. higher = 1 point. 3 ft. 2 in. = 10 points.

THE PENDULUM VAULT

This event is usually practiced only indoors, as the equipment necessary is not found on the athletic field. It can, however, be practiced on playgrounds.

The equipment consists of two climbing ropes, knotted at the end, jumping standards, a cross-bar and a mat. The distance of the jumping standards from the ropes depends upon the height of the vault and must therefore be increased with the increase in the height to be vaulted, the distance being about nine feet for a vault of five feet. It is well to have a take-off line which is about six feet from the jumping standards for this same height. The mat is placed on the further side of the standards for alighting. Such rules of the high jump as can be applied here govern the event.

The vaulter runs forward with vigorous and rapid steps, to increase the swing and to prepare for the take-off, during which the hands slide up to the height desired. The take-off should be single and executed with force. The arms are thoroughly bent and the knees brought up as high as possible. As the cross-bar is reached the legs are extended over it and the arms are straightened, bringing the body in an almost horizontal position. At the same time the ropes are released. The vaulter alights in a squat-stand with knees well bent to prevent a jar. The aim is to get as high as possible without losing form.

Class Exercises:

1. Pendulum swing on the double ropes.
2. As 1 with jumping to a bent arm hang at the end of the forward and lowering slowly on the backward swing.
3. As 2 with raising knees forward (toward chest).
4. As 3 and straighten the legs forward at the end of the forward swing.

These preliminary exercises may be practiced on the rings, poles or ropes as class work.

5. The pendulum vault without obstacles.

Scoring: 5 feet, 1 point; one point added for each additional two inches; 6 feet and 6 inches equal 10 points.

THE SHOT PUT

Two weights of shot are used, 8 and 12 pounds.

The shot is put from a seven-foot iron circle which is sunk into the ground almost flush with the surface. A toe-board four inches high and four feet long is placed along and outside the circumference of the front half of the circle.

A contestant has three trials, of which the best put is counted. A put is measured from the nearest impression made by the shot to the nearest point on the circumference of the circle which lies on a line running from the center of the circle to this indentation.

A foul (a trial without results) consists of: (1) Letting go of shot in an attempt; (2) throwing instead of putting (holding the shot behind the shoulder); (3) touching ground outside the circle, touching the circle, or the top of the stop board, with any part of the body in the attempt.

The competitor leaves the circle by the rear half after the put is measured.

Three judges shall officiate, one of whom acts as scorer.

The shot should be firmly placed in the palm of the hand, close to the base of the fingers, most of the weight being supported by the little finger and the thumb. Rest the shot on the part of the shoulder close to the neck with the elbow down at the side of the body but not too close. Assume a side stride stand in the circle, with the left leg directed toward the front of the circle (when putting right) and with the right foot close to the inner edge at the rear end of the circle. The left arm may be extended at an angle of about 45° in the direction in which the shot is to be put. The weight of the body is on the right foot (rear foot), the right knee being slightly bent and the left leg swung backward and forward, bending on the backward swing. With the forward swing the right knee straightens. This preliminary movement is sometimes repeated two or three times. At a moment when the body is felt to be under good control a vigorous spring left sideward is made in such a manner that the right foot alights about in

the middle of the circle and the left near the toe-board. This spring may also be taken directly from the stand without the preliminary swing. The position of the putter is now almost the same as when he started, with the weight mostly on the rear leg and the trunk bent right. Considerable speed without losing control should be developed in this spring. A sudden turn of the body to the left follows this in which the trunk is snapped straight, the right shoulder thrust forcibly toward the front, the arm extended and the shot put at an angle of about 45°. During this turn the feet have changed positions and the right arm reaches out over the circle to follow up the put as much as possible, avoiding, however, the danger of losing balance and thus fouling. The turn must be made under good control without losing the speed acquired in the spring.

Class Exercises: With the class in open order and without a shot, practice—

(1) Shot put from a side stride stand (weight on right leg) without the turn (reverse). Assume the shot put position as starting position. Turn trunk left and straighten right arm in the direction of putting and swing the left arm in opposite direction—1. Return—2.

(2) As 1, but with the turn (reverse). These exercises are then practiced by fours (or more) with a shot. The class may be divided into two sections and the shot put back and forth from one section to another. The second exercise (the reverse) must be thoroughly mastered before taking up the next.

(3) As 2, preceded by a spring, with class in open order. It is then repeated with a shot by fours (or more) as explained under 2.

The body weight must not be too far toward the front at the end of the spring. Leg, trunk, shoulder, and arm must all assist and their movements be correctly co-ordinated in the put in order to achieve the greatest distance out of the effort. Keep the shot on the shoulder during the spring.

Scoring: 8-pound shot, 15 feet, 1 point; each two feet more, one additional point; 33 feet, 10 points.

Twelve-pound shot, 11.5 feet, 1 point; each additional 1.5 feet, 1 point; 25 feet, 10 points.

THROWING

1. *Basketball Far Throw*

Three forms:

(a) Forward overhead throw.
(b) Backward overhead throw.
(c) Round arm throw.

The ordinary basketball is used. For the forward and backward overhead throw a ten-foot lane is marked off, while for the round-arm throw a twenty-foot lane is necessary. A scratch line drawn at right angles to these lanes indicates the place from which the throw is made.

Leaving the floor with both feet simultaneously is a foul in the forward and backward overhead throw and counts as a trial without results. Likewise stepping over the scratch line and throwing the ball outside of the lanes. These latter rules apply to all three kinds of throws. The distance is measured from the nearest impression made by the ball and at right angles to the scratch line. Each thrower is entitled to three trials. Three judges shall officiate at all forms of throwing and one of them shall act as scorer.

(a) *The forward overhead throw* is made from a side-stride stand with toes touching the scratch line. The ball is held firmly in the open hands and the throw is made forward from well back over the head with a slight trunk bending backward preceded by one or more fore-downward bendings with swinging the ball down between the feet. The knees may or may not be bent on the forward or backward swing. The toes or the heels (but not both together—a jump) may be raised from the ground or floor without constituting a foul.

(b) *The backward overhead throw* is similar in its preliminary movements to the forward throw. The thrower's heels touch the scratch line instead of the toes, and the throw is made backward. It is seldom used in competition.

(c) In the *round-arm throw* the ball is held in both hands with the arms extended forward during the running start

which is used in this event. An unlimited run may be taken, but the person throwing must avoid stepping over the take-off line with the delivery. As the thrower nears the scratch line she executes a hop forward on the right foot, at the same time turning to the right and placing the left foot in the line of throw with the greater part of the body weight on the right foot. At the same time the ball is transferred into the slightly curved right arm which is swung horizontally sideward and then backward as far as possible. This is followed by a snappy turn (reverse), as is used in the shot put, to the left when throwing right, during which the right arm is swung in full force forward delivering the ball at an angle of 45°. The thrower finishes with his weight on the right foot. The hop and turn should be made quickly and smoothly without losing the momentum acquired by the run and should not break in upon it suddenly. The thrower must discover for himself by many trials the speed needed for his run in order to not lose control of his body in the hop and turn. This takes considerable practice. He must also by experimenting find the right place where to begin his hop and reverse.

Class Exercises: For the three forms of basketball far throw divide the class into two sections and throw back and forth from one section to the other as in shot put. Four (or more, if enough balls are at hand) may throw at a time.

The round arm throw is first taken from a stand and executed without the turn (reverse), then with the turn, and finally with the running start. The first two forms of execution may also be given without the ball with the class in open order.

Scoring: (a) Forward overhead throw—27½ feet, 1 point. Every additional 2½ feet equal a point; 50 feet, 10 points.

(b) Backward overhead throw—33 feet, 1 point. Every 3 additional feet equal 1 point; 60 feet, 10 points.

(c) Round-arm throw—44 feet, 1 point. Every four additional feet equal 1 point; 80 feet, 10 points.

2. *Hurlball*

The hurlball is a filled leather ball about the size of the basketball (24 to 25 inches in circumference, 10 inches in di-

ameter) and weighs four pounds. Two kinds of grips are in use, one in which the knuckles are about 1 to 1½ inches from the ball, and another consisting of a loop made of a strap and about eight inches long. The latter grip is only to be used. The ball is thrown in 70-foot lanes, with unlimited start, as the round-arm throw of the basketball far throw. The rules pertaining to the basketball far throw also apply here.

There are two popular forms of execution: (a) with a springing start; (b) with a turn start.

(a) *With a springing start.* Stand in a side stride stand, the left foot directed toward the scratch line, if throwing right, the left arm raised sideward in the line of throw, and the trunk slightly turned in that direction. A few preliminary arm circles (outward, backward) in a vertical plane precede the spring. As the ball swings past the knees and rises toward the shoulder the right foot steps in rear of the left and the left at once again steps forward. These foot movements are done in one jump and must be accurately co-ordinated with the arm circling. This requires considerable practice. Just as the left foot again steps forward the ball is again swinging past the knees and is delivered at an angle of 45°. The body turns toward the front and the right foot comes forward with a spring (reverse) as the ball is thrown. During the preliminary swings as well as during the jumps the knees are slightly bent and forcibly straightened with the delivery, the right arm following up the throw. Greater distance can be gained if two or three jumps are made sideward before delivering the ball. The body must be kept under perfect control during the arm-circling and springing movements.

(b) *With a turn-start.* This is usually preceded by stepping (instead of springing) sideward as explained under (a) and then followed by a rapid three-step turn to the left. The ball is delivered as under (a); that is, with facing in the direction of the throw. Control is easily lost during the turn, as it is extremely difficult to combine the arm-circling with it. The arm only describes one circle as the turn is made. It is well to practice the foot movements separately at first and then slowly in combination with the circling of the arm.

(c) Another form of execution is with the turn as used in

the discus. It is popular with the men. This is practiced in a seven-foot circle while the previous forms admit of unlimited starts. The athlete stands in rear of the circle in a position similar to that in the shot put. Several preliminary circles in a diagonal plane precede the turn. When he feels that the proper moment for beginning the turn has arrived, which is about at the instant when the ball passes forward again, he steps (in place) with his left foot and makes a three-fourths turn left on the ball of the left foot, placing the right foot close to the left. This is followed by an additional one-fourth turn left on the ball of the right foot placing the left foot forward in the line of throw and delivering the ball with a further turn of the trunk toward the front. During this turn the knees are slighly bent, the arms outstretched sideward, the one containing the ball being somewhat below the sideward position and slightly behind the trunk, which seems to pull it along. The speed in turning is increased as control is acquired. Some athletes make two and even three such turns.

Class Exercises. With the class in open order, practice:

1. In the side stride stand, with the trunk slightly turned left and the left arm raised sideward, execute a whole arm-circle right outward and finish with the delivery position.

2. Step left sideward, rear cross step right, step left sideward, turn trunk left. Increase the number of side and rear cross steps.

3. As 2, with arm-circling outward (starting from arm in side position). Step left sideward on lower half of circle —1. Rear cross step on upper half of circle—2. Step left sideward, turn and deliver—3. Repeat increasing the number of side and cross steps and with preliminary arm-circles.

Repeat, increasing the speed, gradually changing it to springing. (Execution with a springing start.)

A club can very well be used for practicing these exercises.

4. The three step turn left sideward and finish with the delivery position—1-2-3.

5. As 4, with arm-circling, starting from arm in the side position or when passing through it, using preliminary swings. Step left on lower half of circle—1. Right on upper half—2. Left and deliver—3.

In all these preparatory exercises the arm-circling is executed outward and in an almost vertical plane. It slightly approaches a diagonal plane when using the turn.

Scoring: 40 feet, one point. Every four feet more an additional point; 76 feet, 10 points.

Chart Showing Class-Aims (Average Performances), Also, in Parentheses, Good Performances, by Ages and Sex

EVENTS		Years 8	9	10	11	12	13	14	15
Standing Broad Jump	GIRLS	3.0 (4.4)	3.1 (4.6)	3.3 (4.9)	3.6 (5.0)	3.8 (5.3)	3.10 (5.6)	4.0 (6.0)	4.1 (6.0)
(In feet and inches)	BOYS	3.4 (4.4)	3.8 (4.10)	4.0 (5.4)	4.3 (5.10)	4.6 (6.3)	4.9 (6.6)	5.2 (6.10)	5.5 (7.4)
Running Broad Jump	GIRLS	5.5 (6.0)	5.6 (6.2)	5.10 (6.8)	6.6 (7.8)	7.2 (8.4)	8.0 (9.0)	9.0 (10.8)	9.0 (11.8)
(In feet and inches)	BOYS	6.0 (6.9)	6.6 (7.0)	07. (7.6)	8.3 (9.1)	9.6 (10.8)	11.4 (12.2)	12.6 (13.5)	13.5 (14.7)
Triple Standing Broad Jump	GIRLS	10.4 (12 0)	10.6 (12.6)	10.10 (14.2)	12.1 (14.8)	12.5 (15.8)	12.9 (17 0)	13.0 (17 0)	13.10 (17 7)
(In feet and inches)	BOYS	12.0 (14.3)	12.3 (14.8)	13.0 (15.9)	14.0 (16.9)	14.6 (18.7)	15.1 (19.0)	16.4 (20.7)	18.1 (22.4)
Running Hop, Step and Jump	GIRLS (10 foot start)	9.2 (11.0)	11.6 (13.9)	13.8 (17.0)	14.6 (18.8)	15.5 (21.4)	15.6 (21.0)	16.4 (21.2)	16.6 (20.0)
(In feet and inches)	BOYS (unlimited run)	10.0 (10.6)	13.0 (15.5)	16.4 (20.5)	18.0 (23.0)	18.8 (24.5)	19.9 (26.0)	21.7 (29.0)	23.0 (29.5)
Running High Jump	GIRLS	2.2 (2.6)	2.5 (2.8)	2.8 (2.10)	2.9 (3.0)	2.10 (3.2)	3.2 (3.3)	2.11 (3.1)	2.9 (2.10)
(In feet and inches)	BOYS	2.2 (2.8)	2.5 (2.10)	2.8 (3.2)	2.11 (3.4)	3.1 (3.6)	3.4 (3.9)	3.6 (4.2)	3.9 (4.5)
Basket Ball Far Throw	GIRLS	12.2 (17.0)	13.8 (20.0)	15.5 (25.0)	17.7 (28.0)	19.4 (31.0)	21.3 (35.0)	22.2 (35.0)	23.4 (36.0)
(In feet and inches)	BOYS	14.4 (19.0)	16.2 (22.0)	18.2 (26.0)	20.3 (30.0)	23.3 (35.6)	24.1 (37.0)	26.7 (37.6)	29.1 (39.0)
Running 50 Yards	GIRLS	9.4 (9.0)	9.2 (8.8)	8.8 (8.4)	8.6 (8.2)	8.4 (8.0)	8.4 (8.0)	8.4 (7.8)	8.2 (7.6)
(In seconds and tenths)	BOYS	9.0 (8.8)	8.8 (8.6)	8.4 (8.2)	8.2 (8.0)	8.0 (7.6)	7.8 (7.6)	7.6 (7.2)	7.4 (7.0)
Running 100 Yards	GIRLS	19.2 (18.0)	18.6 (16.8)	17.2 (15.8)	16.8 (15.6)	16.6 (15.6)	16.4 (15.4)	16.2 (15.4)	16.2 (15.2)
(In seconds and tenths)	BOYS	19.2 (18.0)	18.6 (16.8)	17.2 (15.8)	16.2 (15.2)	15.4 (15.0)	15.0 (14.4)	14.2 (13.6)	13.4 (13.0)

CONTESTS

A. *Individual Competition.*

(a) The most common form of competition is that in which the contestant tries for prizes in one or more events taken singly and not in a group; i. e., *The Single Event Contest.* It is by no means the most practical or valuable. The ordinary "Athletic Meets" conducted according to the A. A. U. rules, are of this kind. They require a great number of officials and, if the entries are large, a long time for their completion.

(b) In *The Group Event Contests* the individual is obliged to participate in a number of events grouped together of which the total result figured in points determines the victors. It is far superior to the "Single Event Contest" as it makes for all-around efficiency by encouraging the development of speed, skill, strength and endurance. It may, however, become dangerous if applied by untrained teachers who, ignorant of the physical powers and needs of the pupils in their charge and of the influence of athletics upon the human organism, include too strenuous or too many events in the group. *It is absolutely essential that the instructor thoroughly understands the various far-reaching effects of the different track and field events upon the body and the physical condition of those in his charge, in order to correctly select the events for the group.* This might be applied to the selection of all athletic events in any form of competition.

There are two kinds of competition in the Group Event Contest:

(1) Competition of individual against individual;
(2) Competition of individual against standard; "Efficiency Contest."

(1) Competition of individual against individual in the form of group contests has been used by the ancient Greeks in their well-known Pentathlon, by the ancient Teutons in their Dreikampf, and constitutes the most popular form of competition in the Deutsche Turnerschaft (Fünfkampf) and in the American Gymnastic Union Festivals (three events, five events). In the modern Olympic games the group con-

test is included as an event which demands the most strenuous test in skill, strength, speed and endurance. It is called the Decathlon (ten events combined). At the Olympic games held at Stockholm in 1912 the American Indian, Thorpe, was the winner in this event. In order to determine the winners in this type of Group Contests it is necessary to use the "point method of scoring," in which the value of each record is expressed in points according to an adopted schedule. (See description of events.) Either first, second and third (or a few more, depending on the number competing) are given prizes, or all of those making a previously determined average (75% in the A. G. U. festivals) are given prizes in the order of their records.

The Group Event Contest is easier to conduct than the Single Event Contest since the contestants must take part in all of the events. The number competing determines the number of equipped places for each event of the group. The contestants are divided into as many sections as there are places and move from one place to the next until they have completed all events. From 15 to 20 individuals usually constitute a section. All sections change places simultaneously upon a given signal. The accountants, the committee figuring the results adds up the points and thus determines the winners.

In the three-fold contest one event is generally selected from each of the following: throwing or putting, running or hurdling, and jumping; in the five-fold contest (pentathlon) from the following: running or hurdling, jumping (2), throwing, putting.

Examples:

A. Basketball far throw, 80-yard dash, standing broad jump.

B. 80-yard dash, running high jump, throwing the hurlball, putting the 8-pound shot, the standing broad jump.

(2) In the Efficiency Contest, competition of individual against standards, the point method of scoring may or may not be used. Here the individual strives to attain a certain record in each event of the group for which, after attained, either a button, pin, or a badge is given. It is popular in ele-

mentary schools, high schools and playgrounds and is a constant encouragement for boys and girls to engage in physical activities.

Swimming, dancing, apparatus exercises and other activities may also be added as an event.

The pupils are usually divided according to age, height and sometimes weight, into juniors and seniors, and different standards are set up for each of the events in the group.

At certain stated intervals the applicants for the test are examined by the instructor and those qualifying are given the symbol indicative of their physical efficiency.

For example, the rules of the Cincinnati Public School Athletic League and the Efficiency Test of the Public Schools of Philadelphia are given:

CINCINNATI PUBLIC SCHOOL ATHLETIC LEAGUE

ATHLETIC BADGE COMPETITION

The Athletic Badge Competition shall take place once a year in the fall. Final reports must be made on blanks furnished by the league, on or before November 1.

Juniors are pupils over 11 and under 13 years of age on September 1, and shall receive a bronze badge. Seniors are pupils over 13 and under 16 on September 1, and shall receive a silver badge.

To receive the badge, each boy must score 40 points, and each girl 30 points. Not less than 8 nor more than 12 points in any one event will be counted. Points will be scored as follows:

BOYS

1. BASKETBALL THROW

Seniors		*Juniors*	
38 feet	8 points	30 feet	8 points
39 feet	9 points	31 feet	9 points
40 feet	10 points	32 feet	10 points
41 feet	11 points	33 feet	11 points
42 feet	12 points	34 feet	12 points

2. CHINNING OR PULLING UP

Seniors		*Juniors*	
6 times	8 points	4 times	8 points
7 times	9 points	5 times	9 points
8 times	10 points	6 times	10 points
9 times	11 points	7 times	11 points
10 times	12 points	8 times	12 points

3. DASH

Seniors 75 yards		*Juniors* 60 yards	
10 2-5 seconds	8 points	9 seconds	8 points
10 1-5 seconds	9 points	8 4-5 seconds	9 points
10 seconds	10 points	8 3-5 seconds	10 points
9 4-5 seconds	11 points	8 2-5 seconds	11 points
9 3-5 seconds	12 points	8 1-5 seconds	12 points

4. JUMP

Seniors Hop, Step and Jump		*Juniors* Standing Broad	
27 feet	8 points	6 feet	8 points
27 feet 6 inches	9 points	6 feet 1 inch	9 points
28 feet	10 points	6 feet 2 inches	10 points
28 feet 6 inches	11 points	6 feet 3 inches	11 points
29 feet	12 points	6 feet 4 inches	12 points

Senior boys under 5 feet in height may substitute three standing jumps for the hop, step and jump, with points as follows:

19 feet 6 inches	8 points	20 feet 3 inches	11 points
19 feet 9 inches	9 points	20 feet 6 inches	12 points
20 feet	10 points		

GIRLS

1. BASKETBALL THROW

Seniors		*Juniors*	
30 feet	8 points	26 feet	8 points
31 feet	9 points	27 feet	9 points
32 feet	10 points	28 feet	10 points
33 feet	11 points	29 feet	11 points
34 feet	12 points	30 feet	12 points

2. DASH

Seniors 60 yards		*Juniors* 50 yards	
9 2-5 seconds	8 points	9 seconds	8 points
9 1-5 seconds	9 points	8 4-5 seconds	9 points
9 seconds	10 points	8 3-5 seconds	10 points
8 4-5 seconds	11 points	8 2-5 seconds	11 points
8 3-5 seconds	12 points	8 1-5 seconds	12 points

3. STANDING BROAD JUMP

Seniors		*Juniors*	
6 feet 2 inches	8 points	5 feet 4 inches	8 points
6 feet 4 inches	9 points	5 feet 6 inches	9 points
6 feet 6 inches	10 points	5 feet 8 inches	10 points
6 feet 8 inches	11 points	5 feet 10 inches	11 points
6 feet 10 inches	12 points	6 feet	12 points

EFFICIENCY TESTS OF THE PUBLIC SCHOOLS OF PHILADELPHIA

STANDARDS AND EVENTS FOR EFFICIENCY TESTS

Purpose—To stimulate interest and further participation in athletics among pupils who have passed the track and field age-aims.

TEST I

(PUPILS UNDER 16 YEARS, WHO HAVE PASSED AGE-AIMS)

Boys

1. Standing broad jump	6 feet
2. Basketball far throw (overhead)	30 feet
3. 50-yard dash	7 3-5 sec.
4. Baseball throw	50 feet

Girls

1. Standing broad jump	5 ft. 3 in.
2. Basketball far throw (overhead)	27 feet
3. 50-yard dash	8 sec.
4. Baseball throw	35 feet

TEST II

(WINNERS OF TEST I, UNDER 16 YEARS)

Boys

1.	Standing broad jump	6 ft. 6 in.
2.	Basketball far throw (round arm)	55 feet
3.	75-yard dash	11 2-5 sec.
4.	Baseball throw	75 feet
5.	Chinning	4 times

Girls

1.	Standing broad jump	5 ft. 9 in.
2.	Basketball far throw (round arm)	45 feet
3.	50-yard dash	7 2-5 sec.
4.	Baseball throw	50 feet
5.	Chinning	1 time

TEST III

(WINNERS OF TEST II, UNDER 16 YEARS)

Boys

1.	Standing broad jump	7 ft. 6 in.
2.	100-yard dash	13 sec.
3.	Chinning	8 times
4.	Baseball throw	100 feet
5.	Shot put—8 lb.	30 feet
6.	Swimming (free style)	220 yards

Girls

1.	Standing broad jump	6 ft. 3 in.
2.	Basketball goal throw	2 out of 5
3.	75-yard dash	11 3-5 sec.
4.	Chinning	2 times
5.	Baseball throw	75 feet
6.	Swimming (free style)	220 yards

B. *Team Competition* and C. *Class Competition.*

These two forms are practically alike. In the one case a certain number of individuals represent a class, school, or

larger body while in the other case an entire class enters a contest. Of the two the latter is to be preferred since it enables each pupil to take part in the work, thus benefiting all instead of a few and bringing the wholesomeness of outdoor exercise to the weaker and needier as well as to the strong. It, furthermore, develops loyalty to the school.

The team or class may compete in a Single Event Contest or in a Group Event Contest.

In the former case the results of all the contestants are added and the average record is found. In running time may be saved by taking the time of the entire team or class instead of the individual. This is done by starting the first runner with the starting of the watch and signaling the next runner in turn as the preceding runner crosses the mark. It may also be run in the form of a relay which would do away with the signaling. As the last runner crosses the mark the watch is stopped and the time divided by the number of runners to obtain the average. In the standing broad jump one may begin where the other left off and the total jump of the team or class measured and averaged.

This form of competition is not as valuable as the Group Event Contest in which every member is required to perform several events as described under "Individual Competition." The point method of scoring is necessary and the procedure is the same as under A. The number of points obtained by all the members in an event are totaled and the average found. This is done in each event whereupon the averages summed up will give the record of the team or class.

To teams and class competition in track and field work, dancing, free exercises without and with hand apparatus, and apparatus exercises can be added very easily since these are also judged on the point basis. It is advisable, if time and space permit, to include them since this makes a broader demand on the physical ability of the pupils.

Individual and team competition may be either intra- or interclass, intra- or interschool. Class competition can not, of course, be intraclass, but may be interclass, intra- and interschool.

CARDS OF CONSENT OF PARENTS

After the instructor has decided to permit a student to enter an event a card (see sample) certifying the approval of the parent and verified by a physician should be presented by the pupil.

Card Adapted for All Competitive Events

PHILADELPHIA PUBLIC SCHOOLS

Registration Card for Athletics and Games

Philadelphia.....19....

Month Day Year

Birth .....Name of Pupil .....

Grade .....Residence .....

This is to certify that my son (cross out one) or daughter has my permission to take part in the following competitive athletic events. Write yes or no after each.

Running ..... Captain ball.....

Soccer ..... Jumping .....

Basketball .....

School-yard baseball (for girls).....

Baseball ..... Goal ball .....

With the provision that all these are run under the special rules arranged for grammar schools.

Signed .....

Parent or Guardian

Reverse Side of Above Card, with Section for Office Record and Filing

---

Office Record

Number ..... Date .....

Name .....Sex .....Age.....

Grade .....School .....

Events prohibited .....

Remarks .....

Competed .....

To be Verified and Signed by Physician

Age (in years) .....Weight.....Height.....

Color of hair .....School

I have examined .....and find him or her physically qualified to participate in the competitive exercises indicated on the other side of this card.

If negative, please give short diagnosis.....

.....

Date ....M. D.

Address.....

MANAGEMENT OF CONTESTS

Success Depends on Officials.—The success of any event, athletic or otherwise, depends largely upon the competency of its officials. Each official should know his respective duties with their limitations, and the relationship of his position to that of each of his brother officials, and all officials should be cognizant of the rules relative to a well-organized meet.

Before the meet the management makes all arrangements, supplies numbers for contestants, finish tape, measuring tapes, rakes and shovels (if necessary) and blanks for the score keeper. All officials should receive copies of every notice that has been sent out, with any other necessary information, special rules, etc.

During the progress of the meet the management supplies any necessary information to the referee at his request, but no changes may be made except through the referee.

Selecting Officials.—Officials should, as a rule, be disinterested parties, and if interested in any contestants should not watch competitors or enter any protests while acting in an official capacity; they should not become angered, and remember that a civil question demands always a civil answer; they should make any necessary explanations of rules (this is not

to be interpreted as necessitating arguments with contestants); they should attend to their respective duties and not watch the progress of the meet, and they should be on hand at least fifteen minutes before the time scheduled for the first event and report to the referee.

Officials Needed.—A regularly and properly conducted meet should have a referee, track judges, field judges, a clerk of the course, a starter, timers, a measurer and scorer (field judges may do this), an announcer, track inspectors, a field marshal, messengers, a field surgeon and an official reporter.

Duties—(*a*) *Referee.*—1. The referee controls the entire meet during its progress. He shall receive the necessary local rules from the management, and during the meet ought to have the original entries in his possession. He shall make the final decision in all matters, where it does not conflict with the rules; he shall make all disqualifications upon recommendations of the officials, except in the cases of stealing and false starting (see Section (*e*), paragraph 3); he shall regulate or change the order of events, he shall decide, in the case of fouls or ties, whether it is necessary to hold another competition among those who are entitled to it; he shall check the names of officials present; he shall fill vacancies and assign duties, appoint other officials when necessary; he shall receive all protests from one contestant or captain of team only, deciding on the field if possible, and, if unable to decide at once, to furnish the management as soon as possible with all details of the protest, together with his views on the matter.

2. If a heat or semi-final of a race results in a tie, both contestants shall be permitted to compete in the final or semi-final. If the tie takes place in a final, both contestants must run another race at a time and place specified by the referee, and if this takes place in field events, the contestants shall compete with each other for the place.

3. In a foul he shall, if it is of importance in awarding a place, hold another race between those who are entitled to it.

(*b*) *Track Judges.*—1. The track judges shall be sufficient in number to have each one select one of those winning a place. As first, second and third place are usually taken, it

usually necessitates three judges, with one extra to select the fourth man in case one of the competitors is disqualified.

2. The judge whose name is first on the program is the judge-in-charge, and usually takes first place, while the others take second, third, etc., in their respective order. In case of a substitute judge, it is customary for him to take last man and "the others move up."

3. At the beginning of each race the judge-in-charge shall call the judges and timers to the finish line, and then notify the starter that all is ready by some prearranged signal, preferably the blowing of a whistle, which he himself shall supply. (It might simplify matters to have the starter to blow one blast and the judge answer with one if all is ready and two if there is to be any protracted delay.)

4. At the close of each race the judges shall report to the judge-in-charge the name of the contestant each has picked, which the judge-in-charge shall note with the time as agreed upon by the timers, at the left-hand pole (inside of track) of the finish, all of which shall be furnished to the official scorer. The decision of judges is final, except in case of disqualifications, which must be ratified by the referee.

The finish tape should be of some soft, easily breakable material furnished by the management.

(*c*) *Field Judges.*—1. The field judges should have the management of the field events, etc. There should be three judges for an event, and where more than one field event is in progress at the same time, an extra group of officials should be provided. (This happens when there are many contestants, or when, as in pole vaulting, each contestant consumes a great deal of time.)

2. They shall decide the validity of each performance of a contestant, decide fouls and keep tally and a record of the event. Where measuring is necessary one of the judges shall verify the reading of the measurer, and in all cases mark or designate the point to be measured unless, as is often the case, one of the judges acts as measurer.

3. In case of any disagreement a majority shall rule, and this decision shall be final. On the program they shall be

grouped in threes, and the first of each three shall be the judge-in-charge of the event assigned by the referee.

4. The judge-in-charge shall notify the clerk of the course to call his event, as per schedule of the referee or of the program; he shall recommend any disqualifications which must receive the sanction of the referee; he shall furnish the official scorer with the result of the event, and report its completion to the referee. He may give contestants, who have failed to answer the call, an opportunity to compete, only when they have been competing in another event, or by reason of something over which they had no control.

(*d*) *Clerk of the Course.*—1. The clerk of the course and his assistants shall be furnished, as long before the meet as possible, with a list of events, the order and time of starting, and a complete list of entries. (Usually a program a day or two in advance of the meet is sufficient.) If there is no time scheduled for events, the time shall be designated by the referee, through the judges-in-charge.

2. He shall call names, give out numbers, check absentees and place the contestants in their proper order, as rated on the program. Where it is possible to run two heats in one (due to absentees), he shall so arrange matters selecting the men of the first heat alternately with those of the second. He shall only allow a contestant who has failed to appear to enter any heat or semi-final when said contestant has been detained by competition in another event. He shall not allow any contestant to compete in the final who has not competed in the semi-final.

3. In case of handicaps, if any contestant attempts to steal before all have been placed, he shall notify the starter, and said competitor shall be penalized by the starter in the same manner as in false starts. (Section (*e*), paragraph 3.) In handicap field events contestants shall compete in the order of their handicap, the one with the least handicap competing last. (In scratch events the order on the program is adhered to.)

4. He shall assign duties to his assistants.

(*e*) *Starter.*—1. The starter shall start all races after the competitors have been placed in their respective places by the clerk of the course. He should make some premonitory remarks before discharging the pistol. He should inform the competitors of the formula for starting, and state to them the penalty for trying to steal or for false starting. If he notices a steal as he discharges the pistol he shall recall the contestants by a second shot and penalize the offender as stated in paragraph 3 of this section.

2. Previous to the start he shall signal the judges-in-charge, and shall wait for their return signal. It is unwise to hold contestants too long a time in the positions of starting, as it increases the nervous tension and strain of competition.

3. He shall penalize any competitor for the first and second false start, and disqualify him from that event for the third. Penalties shall be as follows:

Races of less than 100 yards.—1½ feet for first and 1½ feet for second offense.

Races of 100 yards and less than 220 yards.—1 yard for first and 1 yard for second.

Races of 220 yards and less than 440 yards.—2 yards for first and 2 yards for second.

Races of 440 yards and less than 880 yards.—3 yards for first and 3 yards for second.

Races of 880 yards and less than 1 mile.—4 yards for first and 4 yards for second.

Races of 1 mile and less than 2 miles.—5 yards for first and 5 yards for second.

And for each additional mile, 5 yards is to be added.

4. He shall notify the judge-in-charge of any disqualifications immediately at the close of the race.

(*f*) *Timers.*—1. There shall be three timers to an event, each one independently timing the race from the flash of the gun to the breaking of the tape. The timer whose name first appears on the program shall be timer-in-charge, and shall upon demand report the previously agreed time to the judge-in-charge.

2. Two watches showing the same time shall be regarded as official time; when all three differ, the mean time of all three shall be taken to the nearest fifth. If one watch is not started, and there be a difference between the other two, the slower time shall be official.

3. It is customary for timers to supply their own watches, which should be run together for 15 or 20 minutes before any race, to check any error.

(*g*) *Measurers.*—Measurers shall be assigned by the referee to each field event where needed, and shall measure the distance or height as indicated by the judges. There should be at least two measurers, and the reading should be verified by one of the judges. Tapes should be furnished by the management. At A. G. U. festivals the judges are also measurers.

(*h*) *Official Scorer.*—(1). The official score-keeper, with assistants if necessary, shall keep an accurate account of contestants, absentees, disqualifications and results of all events. The results are verified by the referee before becoming official, and one copy of results must be given to the referee at the close of the meet for the management.

2. He shall be supplied with lists in the same manner as the clerk of the course (Section (*d*), paragraph 1), and if this is not done until the meet he should be supplied with blanks necessary to discharge his duties. His work is only for the use of the referee.

(*i*) *Announcer.*—The announcer, possibly with assistants on larger occasions, should provide himself with a megaphone and announce the result of each race or event as soon after its completion as possible. At his discretion, he may also call attention to interesting points referable to records broken, reputation of special contestants or winners, progress of certain events and other features. He should in all cases announce results as obtained only after their ratification by the referee.

(*j*) *Inspectors.*—The inspectors, at least one for each turn of the track, should report at once to the referee, with full par-

ticulars, any foul or infringement of rules with the exception of attempts to steal in handicap races, which shall be reported to the clerk of the course.

(*k*) *Field Marshal.*—The marshal with the referee shall plan the means for handling spectators and contestants; and with his assistants and the aid of the police shall keep the courses free. Trainers should not be allowed inside the course, as it obstructs the view and hinders the work of the officials. Contestants especially should be prevented from coaching their own men, and infractions should be reported to the referee, who should deal with them according to the rules.

(*l*) *Messengers.*—The messengers may be students, two or three according to the magnitude of the meet, wearing some easily recognizable insignia. Their duties consist of carrying messages to or from any official, team or contestant. They should understand the general management of meets. One should be assigned to the referee; one to the clerk of the course, and, if necessary, one each to the field and track judges.

(*m*) *Field Surgeon.*—1. It is advisable to have a physician on the field in case of emergencies, and his name should be mailed to all contestants previous to the meet. with the information that in case of accident they should ask for Doctor ———.

2. For managements which are regularly holding meets it is suggested that an emergency outfit be supplied for the surgeon's use. The following list is suggested:

Sterile bandages, gauze and cotton; ligatures, needle and needle-holder; scalpel; hypodermic syringe with tablets of strychnine, digitalin and atropine or equivalents. Solution of bichloride of mercury and bichloride tablets, normal salt solution and a pint of sterile water; aromatic spirits of ammonia, alcohol, tincture of iodine, flexible collodion; camel's-hair brush, stethoscope; scissors, adhesive plaster; pure carbolic acid, drinking glass and couple of boards for splints.

(*n*) *Official Reporter.*—The official reporter shall write an account of the meet, obtained from the scorer, and furnish

same to any local reporters present. If no local reporters are present, he shall send the report to the leading paper for publication at once.

By following these rules and suggestions every official knows his duty, knows the scope of each event and knows with whom he is to work. This, necessarily, will greatly facilitate the running of events.

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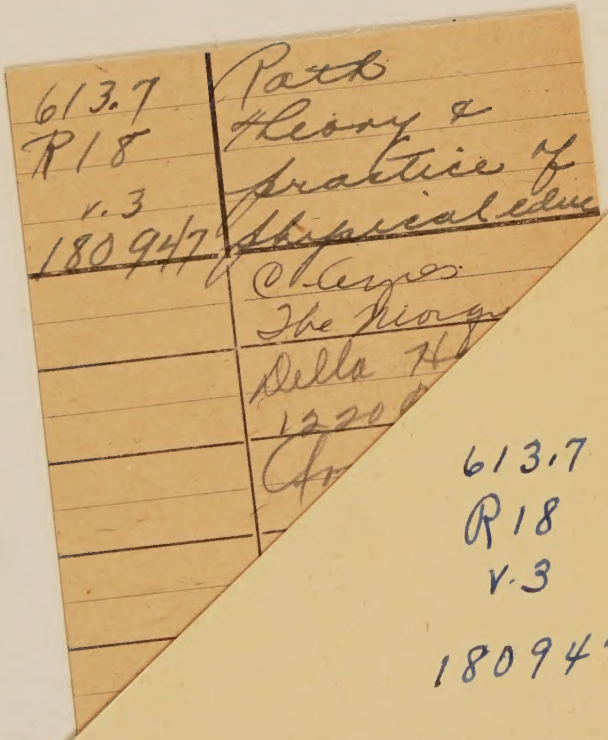
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